

FINAL REPORT

CIRCULATION AND SCENIC HIGHWAY ELEMENT UPDATE
CITY OF SARATOGA, CALIFORNIA

BACKGROUND REPORT AND
GOALS, POLICIES, AND IMPLEMENTATION MEASURES

PREPARED FOR:
CITY OF SARATOGA

JUNE 19, 2001

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**PREPARED FOR:
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**PREPARED BY:
FEHR & PEERS ASSOCIATES, INC.**

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VISION STATEMENT

It is the intent of the City that the emphasis on maintaining the rural character of Saratoga as expressed in the General Plan and Specific Plans be affirmed, preserved and furthered by the goals, policies and implementation measures presented in the Year 2000 Circulation and Scenic Highway Element Update. Additionally, it is the intent of the City that the mandate expressed by the citizens of Saratoga to control density, traffic, and noise be affirmed, preserved and furthered by the goals, policies and implementation measures presented in this document. The City also pledges to be a responsible partner in developing regional transportation solutions. Where any inconsistency or conflict appears in interpreting this document, the strong value that Saratogans place on the rural character of the City shall weigh heavily in the resolution of such conflict.

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I. INTRODUCTION

What is a Circulation and Scenic Highway Element?

A Circulation and Scenic Highway Element is one of seven required elements of a City or County's General Plan. California Government Code Section 65302 (b) specifies that the Circulation Element of a General Plan shall identify the proposed location and extent of major thoroughfares, terminals, and services designed to transport people and goods. The City of Saratoga's transportation system is comprised of roadways, bikeways, sidewalks and trails, transit facilities and services, and rail lines.

The Circulation and Scenic Highway Element addresses all travel modes and includes the goals, policies, and implementation programs that guide the development and maintenance of the transportation system. Scenic highway designations and corridor preservation issues are also addressed as part of this element.

Why Update the Circulation Element?

The Circulation Element was last updated in 1983 and included a limited amount of data regarding future travel demand. Over the last sixteen years, the City of Saratoga has seen significant changes in its transportation system primarily due to construction of the State Route 85 freeway in 1994 and rapid growth in the Santa Clara Valley. Because the vast majority of land use within Saratoga is essentially built-out, future travel demand will be

generated by redevelopment, in-fill projects, and additional through traffic. Thus, the primary goal of the Circulation Element is to manage and improve the existing transportation system.

Background

The transportation system in Saratoga was originally developed before the City was incorporated and was based on planning principles for rural communities. These principles included construction of numerous local streets without finished curbs, gutters or sidewalks, extensive use of natural landscaping, and development of an arterial street system that radiated from the Village area along Big Basin Way.

Due to the hilly terrain and natural setting, some City streets include narrow travel lanes that are less than the 12-foot standard used in many urban areas. The City maintains an on-going effort to eliminate sight distance limitations caused by trees and shrubs or by structures built before recent setback standards were implemented

As the City has developed and overall travel demand in the area has increased, the focus of citywide circulation traffic volumes has shifted from the Village area. The opening of the SR 85 regional freeway has concentrated traffic demand on Saratoga Avenue. Because of the City's street pattern, some two-lane roadways originally designed as collector streets have experienced increased traffic volumes. In addition, opportunities to expand alternative travel modes have been

limited because of: 1) the original planning principles to minimize the number of sidewalks, 2) insufficient roadway width or right-of-way to accommodate both on-street parking and separate bicycle facilities, and 3) the low-density development pattern that makes transit service less efficient.

The City has consistently made a conscious effort to retain the rural character of the community while providing adequate capacity and safety for vehicles and other modes of travel. Local residential streets are the framework around which the neighborhoods in Saratoga are built. To a great extent, the pattern and design of streets help shape neighborhood image and identity, and can influence whether or not an area feels safe, the degree of communication neighbors have with each other, the degree to which residents of an area use alternative modes for personal travel, and the people's general feelings of well-being and comfort related to their immediate environment.

Regulatory Agencies

The City of Saratoga has jurisdiction over all City streets and City-operated traffic signals. The SR 85 freeway, its ramps and SR 9 (Saratoga-Los Gatos Road and Big Basin Way) are under the jurisdiction of the State of California Department of Transportation (Caltrans). The portion of Saratoga-Sunnyvale Road between the northern City limit at Prospect Road and SR 9 is the "old" SR 85 and is currently under Caltrans jurisdiction. The process of relinquishing this segment to the City of Saratoga has been initiated.

The Santa Clara Valley Transportation Authority (VTA) is an independent special

district responsible for congestion management, specific highway improvement projects, countywide transportation planning, and bus and light rail operations in Santa Clara County. The VTA is the Congestion Management Agency (CMA) for jurisdictions within the County and sets the State and Federal funding priorities for improvements affecting Congestion Management Program (CMP) facilities. CMP facilities in Saratoga include SR 85, SR 9 (Saratoga-Los Gatos Road and Big Basin Way), Saratoga-Sunnyvale Road, and Saratoga Avenue (east of SR 85). In Saratoga, the VTA provides fixed-route bus and paratransit service.

The regional transportation planning agency for the San Francisco Bay Area is the Metropolitan Transportation Commission (MTC), which is the clearinghouse for both State and Federal funds for transportation improvements. Each county's CMA, including the VTA, forwards their Capital Improvement Project (CIP) list to MTC for review. MTC prepares the regional priority list based on input from all nine Bay Area counties and submits it to the California Transportation Commission (CTC) and/or the Federal Highway Administration (FHWA) for funding.

Community Input

Input from City of Saratoga residents, business owners and public officials was an integral part of the element update process. Two community workshops were held to elicit public input on: 1) key circulation and scenic roadway issues, and 2) potential measures to provide a balanced and efficient transportation system. The issues raised at these

meetings were used to more accurately describe the existing transportation system and to focus the goals, policies, and implementation measures that form the vision of the City's circulation plan.

Public meetings were held by the Public Safety Commission and the Planning Commission to solicit additional public input and to provide comments on the background report and draft goals, policies, and implementation measures. These meetings were advertised through the Saratoga News, press briefings, standard meeting agendas, and, in some cases, direct mail to residents.

The Public Safety Commission addressed the document on April 13 and May 11, 2000. The Planning Commission held four meetings on May 16, May 24, June 14, and July 26, 2000 before recommending approval of the Circulation and Scenic Highway Element to the City Council.

The City Council reviewed the document during its September 20 and October 4, 2000 meetings and obtained final comments prior to scheduling the Circulation Element for final adoption on December 12, 2000.

II. OVERVIEW OF EXISTING TRANSPORTATION SYSTEM

The current use of each travel mode is presented followed by descriptions of each component of the existing transportation system: roadways, bicycle and pedestrian facilities, transit services and facilities, and rail lines. Figure 1 shows a map of the major roadways within Saratoga.

Commute Travel Modes

Saratoga residents use a variety of modes to travel. Table 1 shows the proportional share by travel mode for Saratoga residents commuting to work.

TABLE 1 Travel Mode Share - Saratoga Residents	
Transportation Mode	Share (%)
Drive Alone	89.3
Carpool/Vanpool	7.4
Bus	0.4
Bicycle	0.4
Walk	1.0
Other ¹	1.5
Notes: ¹ Includes motorcycle riders, worked at home, and other modes.	
Source: U.S. Census Transportation Planning Package, 1990.	

According to 1990 Census data, the vast majority of work trips (nearly 90 percent) are made by single-occupant vehicles. Carpools/vanpools or ridesharing comprises the second highest share at 7.4 percent. Transit, bicycle and pedestrian trips comprise less than two percent of the commute trip total. Recent studies conducted in 1999 show similar mode shares at two local elementary schools where approximately 90 percent of students arrive and depart by automobile.

Existing Roadway System

Regional roadway access to Saratoga is provided by three major freeways: State Route (SR) 85, Interstate 280 (I-280), and SR 17. Only SR 85 provides direct access to Saratoga via interchanges at Saratoga Avenue and South De Anza Boulevard (in Cupertino). Access to SR 17 is provided by Saratoga-Los Gatos Road, which is designated as SR 9. Lawrence Expressway also serves regional traffic and links Saratoga to Santa Clara and Sunnyvale.

As shown on Figure 1, the major roadways carry traffic between various areas of Saratoga as well as to other nearby cities. Local roadway access within Saratoga is provided by a network of streets that was specifically designed to discourage cut-through traffic in neighborhood areas. Unfortunately, increased congestion on some of the major roadways, especially near the SR 85/Saratoga Avenue interchange, has led to increased diversion through neighborhoods.

Brief descriptions of the key roadways within the City are presented below.

SR 85 is six-lane freeway linking U.S. Highway 101 (US 101) in Mountain View to US 101 in south San Jose. The median lane in both directions is designated for use by High Occupancy Vehicles (HOVs) and motorcycles during peak periods. HOVs include carpools, vanpools and buses. A full-access interchange is provided at Saratoga Avenue between Fruitvale and Cox Avenues.

Figure 1 – City Map

Saratoga-Los Gatos Road is a two- to four-lane roadway extending between Big Basin Way in Saratoga and SR 17 in Los Gatos. A center two-way left-turn lane is provided on selected segments of this road within Saratoga. Saratoga-Los Gatos Road is designated as SR 9 and is under the jurisdiction of the California Department of Transportation (Caltrans).

Saratoga Avenue is a two- to six-lane street linking Saratoga-Los Gatos Road (SR 9) with Scott Boulevard in the City of Santa Clara. In Saratoga, this street includes two lanes between SR 9 and Fruitvale Avenue, and four lanes north of this point to the City limits.

Saratoga-Sunnyvale Road is a four- to six-lane, north-south road extending between Saratoga Avenue and Prospect Road. North of Prospect Road in the Cities of Cupertino and San Jose, this roadway is designated as South De Anza Boulevard.

Prospect Road is a two- to six-lane east-west roadway extending between Stevens Creek County Park and Saratoga Avenue. Several north-south collector streets connect to Prospect Road through Cupertino including Blaney Avenue, Miller Avenue, and Johnson Avenue. Most of Prospect Road forms the boundary between Saratoga and the Cities of San Jose and Cupertino.

Fruitvale Avenue is a two- to four-lane street linking Saratoga Avenue to Saratoga-Los Gatos Road (SR 9). It is two lanes wide south of Burgundy Way. Fruitvale Avenue is the primary access to West Valley College.

Cox Avenue is an east-west street extending between Saratoga-Sunnyvale Road and

Quito Road. This street includes two travel lanes west of Saratoga Avenue and four lanes to the east. Between Prospect Road and Saratoga-Los Gatos Road, Cox Avenue is the only east-west street providing a direct connection across Saratoga between Saratoga-Sunnyvale Road and Quito Road.

Allendale Avenue is a two-lane, east-west roadway linking Fruitvale Avenue and Quito Road. West of Fruitvale Avenue, this street provides access to the Saratoga Civic Center, Post Office, and Redwood Middle School. Access to West Valley College is provided on Allendale Avenue.

Quito Road is a two-to four-lane north-south roadway and essentially forms the City's eastern boundary. Quito Road links Lawrence Expressway (south of Saratoga Avenue) to Saratoga-Los Gatos Road. *Big Basin Way* is a two-lane roadway between Saratoga-Los Gatos Road and Pierce Road. West of Pierce Road, this roadway is called Congress Springs Road and connects to Skyline Boulevard (SR 35). Big Basin Way is designated as SR 9.

Pierce Road is a two-lane roadway linking Congress Springs Road (SR 9) with Saratoga-Sunnyvale Road. This roadway traverses hilly terrain and provides access to numerous local and collector streets in the western hills.

Functional Roadway Classifications

To better identify the character of a roadway, all streets and highways are classified by their function. For example, some facilities are designed to serve high traffic volumes across the City, while others are designed to serve low volumes

and to distribute traffic within a limited area. As a point of reference, the City has used the classification system maintained by the Federal Highway Administration (FHWA) which uses the following classifications: interstate freeway, other freeway or expressway, other principal arterial, minor arterial, collector, and minor collector (for rural areas only). All other streets are assumed to be local streets. A map of the current FHWA classification system that is being reviewed by the City of Saratoga is shown on Figure 2.

The City does not have an officially adopted classification system. Although the current General Plan map identifies some arterial roadways and collector streets, no distinction is made between types of arterial roadways (principal/major vs. minor). For discussion purposes, roadways have been classified into seven categories: freeways, expressways, major and minor arterials, collectors, local streets, and hillside streets. Portions of Prospect Road and Quito Road that are located in adjacent jurisdictions may be designated differently by those agencies. General definitions of these classifications and example segments are presented below.

- *Freeways.* Freeways are limited-access, high-speed travelways included in the State and Federal Highway systems. Their purpose is to carry regional through traffic. Access is provided by interchanges with typical spacing of one-mile or greater. No access is provided to adjacent land uses. The only freeway in the City is State Route (SR) 85.
- *Expressways.* Expressways are high-speed, limited-access streets designed to facilitate the movement of high

traffic volumes. Expressways are designed to serve both regional through and local traffic and ideally connect other regional roadways and freeways. The only expressway facility within the city limits is a very short segment of Lawrence Expressway north of Saratoga Avenue.

- *Major and Minor Arterials.* Arterial roadways are major streets that primarily serve through traffic and provide access to abutting properties as a secondary function. Arterials are generally designed with two to six travel lanes and major intersections are signalized. This roadway type is divided into two categories: major and minor arterials. Major arterials are typically four- or more lane roadways and serve both local and through traffic. Minor arterials are typically two- to four-lane streets and serve local and commute traffic. Examples of major arterials are Saratoga Avenue east of SR 85, Saratoga-Sunnyvale Road, Saratoga-Los Gatos Road, and Quito Road north of SR 85. Minor arterials include Saratoga Avenue west of SR 85, Fruitvale Avenue, Cox Avenue (Saratoga-Sunnyvale Road to Saratoga Avenue), and Quito Road south of SR 85.
- *Collectors.* Collectors are streets that provide land access and traffic circulation within residential, commercial and industrial areas. They connect local streets to arterials and are typically designed with two travel lanes that may accommodate on-street parking. Collector streets include Herriman Avenue, Pierce Road, and Miller Avenue.

Figure 2 – FHWA Map

- **Local Streets.** Local or residential streets provide direct access to abutting residential properties as their primary function. Local streets have no more than two travel lanes and may or may not accommodate on-street parking. In many areas of Saratoga, local streets do not include sidewalks.
- **Hillside Streets.** These roads are local streets located in the foothills that have narrow travel lane widths and slower travel speeds. No on-street parking is typically permitted and no right of way is available for separate pedestrian or bicycle facilities. Examples include Bohlman Road and portions of Canyon View Drive.

The roadway classifications listed above will be included in the Draft Circulation and Scenic Highway Element Update to be reviewed by the Planning Commission and City Council.

Existing Traffic Volumes

Existing traffic volumes were established with traffic counts conducted in 1998 and 1999. Current daily traffic volumes for the City's major streets are presented on Figure 3, while Figure 4 illustrates peak-hour volumes at 16 key intersections throughout the City.

Daily traffic volumes are used to identify the required number of travel lanes on roadway segments; however, intersections represent the constraint points of the roadway system. Thus, intersection peak-hour volumes are a better indicator of roadway operations, especially in Saratoga, where widening of roadway segments to accommodate existing and future volumes

is limited by right-of-way and topographical constraints.

Intersection Operations

The operations of roadways are described with the term *level of service*. Level of service (LOS) is a qualitative description of traffic operations ranging from Level A, or free flow operations with little or no delay, to Level F, or oversaturated conditions with excessive delays. LOS E represents conditions at capacity. Tables describing the ranges of delay at signalized and unsignalized intersections are included in the technical appendix. The existing intersection service levels are presented in Table 2.

The City of Saratoga does not have an adopted LOS standard. Recently, traffic studies for development projects have applied a goal of LOS C, but the City typically accepts LOS D as the minimum acceptable operating level.

The Saratoga-Los Gatos Road/Saratoga Avenue-Big Basin Way intersection is included in the Santa Clara County Congestion Management Program (CMP). CMP-designated intersections have regional significance and are monitored annually by the Valley Transportation Authority, the congestion management agency for Santa Clara County. In addition to annual monitoring, VTA staff reviews transportation impact analysis reports from local agencies to evaluate the potential transportation impacts of local land use decisions. The LOS standard for CMP intersections is LOS E.

Figure 3 –Daily Volumes



Figure 4 – Peak Hour Volumes

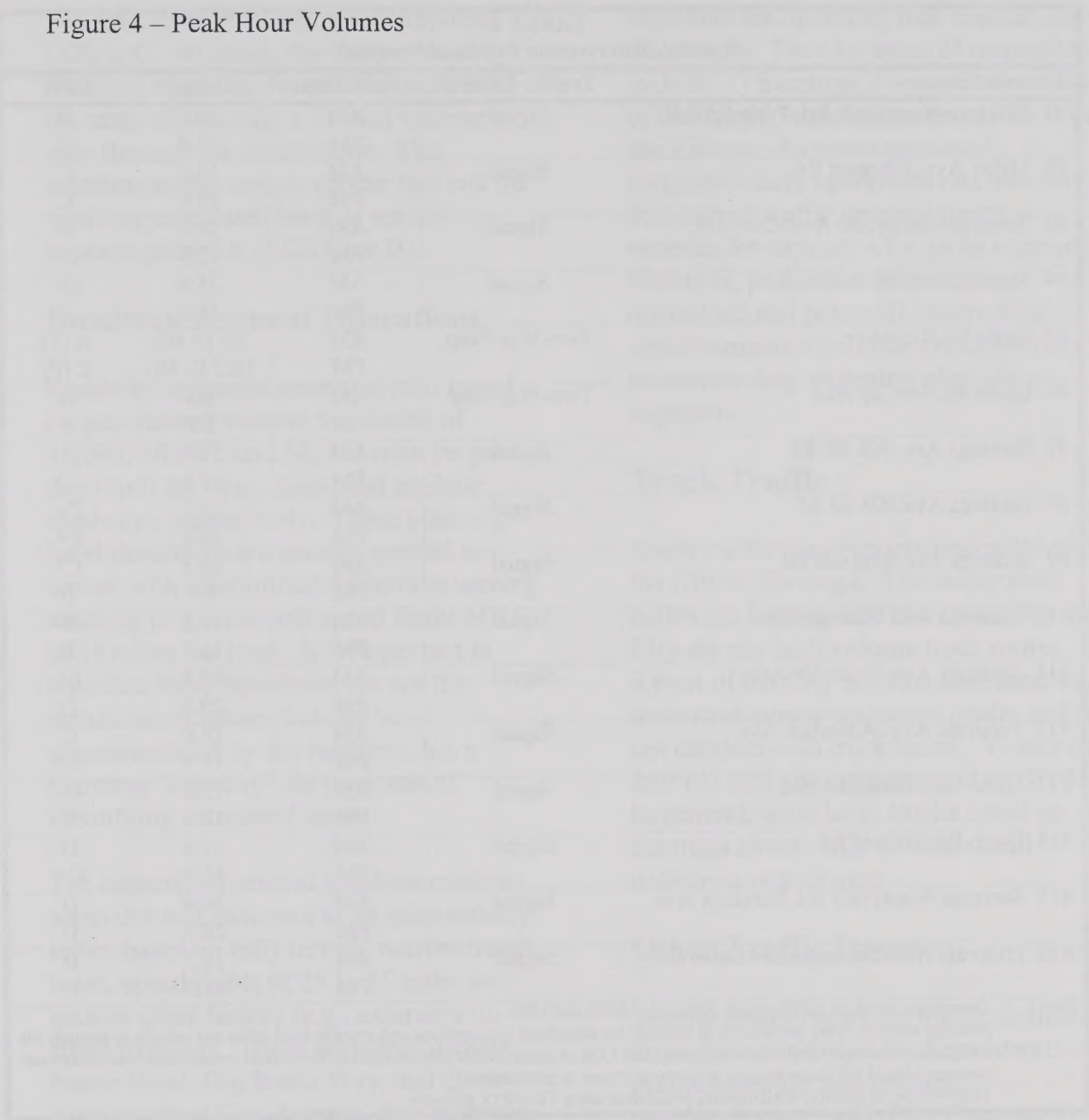


TABLE 2
Existing Intersection Levels of Service¹

Intersection	Traffic Control	Peak Hour	Delay ²	LOS ³
#1 Saratoga-Sunnyvale Rd./Prospect Rd.	Signal	AM	29.6	D
		PM	22.8	C
#2 Miller Ave./Prospect Rd.	Signal	AM	17.9	C
		PM	18.6	C
#3 Saratoga-Sunnyvale Ave./Cox Ave.	Signal	AM	14.9	B-
		PM	15.9	C+
#4 Saratoga Ave./Cox Ave.	Signal	AM	25.0	D+
		PM	24.2	C-
#5 Quito Rd./Cox Ave.	Two-Way Stop	AM	2.1 (> 60)	A (F)
		PM	10.2 (> 60)	C (F)
#6 Quito Rd./McCoy Ave.	Two-Way Stop	AM	3.4	A
		PM	2.2	A
#7 Saratoga Ave./NB SR 85	Signal	AM	16.1	C+
		PM	17.3	C
#8 Saratoga Ave./SB SR 85	Signal	AM	15.1	C+
		PM	16.8	C+
#9 Saratoga Ave./Dagmar Dr.	Signal	AM	16.5	C+
		PM	8.1	B
#10 Saratoga Ave./Scotland Dr.	Signal	AM	13.3	B-
		PM	11.2	B
#11 Saratoga Ave./Fruitvale Ave.	Signal	AM	40.8	E+
		PM	29.2	D
#12 Fruitvale Ave./Allendale Ave.	Signal	AM	19.0	C
		PM	15.7	C+
#13 Quito Rd./Allendale Ave.	Signal	AM	13.2	B-
		PM	12.0	B
#14 Quito Rd./Pollard Rd.	Signal	AM	29.8	D
		PM	15.9	C+
#15 Saratoga-Sunnyvale Rd./Saratoga Ave.	Signal	AM	26.4	D
		PM	28.3	D
#16 Fruitvale Ave./Saratoga-Los Gatos Rd.	Signal	AM	10.3	B
		PM	11.5	B

Notes: ¹ Operations based on traffic counts obtained in 1998 and 1999.
² Average stopped delay per vehicle in seconds for signalized intersections and average total delay per vehicle in seconds for unsignalized intersections. Reported delay and LOS at unsignalized intersections is for overall intersection, with delay and corresponding LOS for worst-case movement shown in parentheses.
³ LOS = Level of service. Calculations performed using TRAFFIX program.

The results in Table 2 show that all of the intersections are currently operating at LOS D or better during both the AM and PM peak hours with one exception. The intersection of Saratoga Avenue/Fruitvale Avenue is operating at LOS E in the AM peak hour according to the operations analysis. This deficiency is primarily

caused by the substantial traffic demand generated by West Valley College.

In general, field observations conducted in October 1999 corroborate the results of the level of service calculations. However, observations show that lengthy queues form on southbound Saratoga Avenue north of the SR 85 interchange during the

PM peak hour even though the reported LOS is C. At times, the delay caused by the ramp meter on the southbound SR 85 on-ramp allows only a limited volume to pass through the intersection. The resulting traffic counts appear low and the resulting calculated level of service appears good (i.e., LOS C or D).

Roadway Segment Operations

Roadway segments were analyzed based on generalized volume thresholds of 18,000, 36,000, and 54,000 vehicles per day (vpd) for two-, four-, and six-lane roadways, respectively. These planning-level thresholds are usually applied to streets with intermittent driveways serving abutting properties and speed limits of 35 to 45 miles per hour. It is important to note that these thresholds are not the maximum volumes that can be accommodated by the roadway, but a planning “capacity” for purposes of identifying congested areas.

The capacity of several two-lane roadway segments was assumed to be substantially lower based on hilly terrain, narrow travel lanes, speed limits of 25 to 35 miles per hour or other factors (e.g., extensive on-street parking). These segments include Pierce Road, Big Basin Way, and Quito Road south of Cox Avenue. For purposes of this analysis, roadway segment operations are classified as under, near, or over capacity. Near capacity refers to segments with volumes between 80 and 100 percent of their planning volume threshold.

Table 3 shows the existing operations of the key roadway segments identified on Figure 3. The results in Table 3 show that four of the eighteen study roadway

segments are operating near capacity on a daily basis. The two areas of congestion include: 1) Saratoga Avenue in the vicinity of the SR 85 interchange, and 2) SR 9 near the Village. As noted previously, congested daily operations can indicate that overall traffic demand meets or exceeds the capacity of a given segment. However, peak-hour intersection operations and potential intersection improvements should be evaluated prior to recommending widening of roadway segments.

Truck Traffic

Truck traffic is not an existing problem in the City of Saratoga. The major state highways leading into and traversing the City are not high volume truck routes. SR 9 west of the City is a two-lane road with numerous curves and steep grades and is not conducive to truck travel. Trucks over four (4) tons are not permitted on SR 85. In general, most large trucks travel on Saratoga streets only to make local deliveries or pick-ups.

Other Traffic Issues

Several issues regarding traffic circulation throughout the City have been identified at public meetings and through communications with City Community Development Department staff. These issues are listed below followed by a brief discussion of each.

Neighborhood Traffic Problems – Citizens in several neighborhoods have indicated that the traffic volume or travel speeds on some local streets have increased to an unacceptable level. Many cite the change in travel patterns due to SR 85 as the primary cause.

TABLE 3
Existing Roadway Segment Levels of Service¹

Roadway Segment	Existing Volume	Planning Capacity	% of Capacity	Under, Near or Over Capacity ²
Prospect Rd. (Saratoga-Sunnyvale Rd. to Miller Ave.)	21,300	36,000	59%	Under
Prospect Rd. (Miller Ave. to Lawrence Expy.)	20,500	36,000	57%	Under
Saratoga-Sunnyvale Rd. (Prospect Rd. to Cox Ave.)	25,900	36,000	72%	Under
Saratoga-Sunnyvale Rd. (Cox Ave. to Saratoga Ave.)	19,000	36,000	53%	Under
Pierce Rd. (Surrey Ln. to Comer Dr.)	3,700	4,500	82%	Near
Cox Ave. (Saratoga-Sunnyvale Rd. to Saratoga Ave.)	10,200	18,000	57%	Under
Saratoga Ave. (Lawrence Expy. To Cox Ave.)	33,100	36,000	92%	Near
Saratoga Ave. (Cox Ave. to SR 85)	44,000	36,000	122%	Over
Saratoga Ave. (SR 85 to Fruitvale Ave.)	38,800	36,000	108%	Over
Saratoga Ave. (Fruitvale Ave. to Saratoga-Sunnyvale Rd.)	13,500	18,000	75%	Under
Big Basin Wy. (Saratoga-Sunnyvale Rd. to Pierce Rd.)	16,800	15,000	112%	Over
Fruitvale Ave. (Saratoga Ave. to Allendale Ave.)	24,300	36,000	68%	Under
Fruitvale Ave. (Allendale Ave. to Saratoga-Los Gatos Rd.)	8,900	18,000	49%	Under
Allendale Ave. (Fruitvale Ave. to Quito Rd.)	9,500	18,000	53%	Under
Quito Rd. (Saratoga Ave. to Allendale Ave.)	28,400	36,000	79%	Under
Quito Rd. (Allendale Ave. to Saratoga-Los Gatos Rd.)	6,800	15,000	45%	Under
Saratoga-Los Gatos Rd. (Saratoga Ave. to Fruitvale Ave.)	21,900	18,000	122%	Over
Saratoga-Los Gatos Rd. (Fruitvale Ave. to Quito Rd.)	18,000	36,000	50%	Under
Note: ¹ Count data obtained in 1998 and 1999.				
2 Under capacity is considered < 80%; near capacity is 80% to 100%; over capacity is > 100%.				
Source: Fehr & Peers Associates, Inc.				

The daily capacities shown in Table 3 apply to arterial roadways designed to carry substantial traffic volumes. Even a two-lane collector road with numerous access driveways is physically capable of serving traffic volumes in excess of 7,500 vpd without congestion depending on intersection operations, available gaps in traffic, and lane widths. For collector and local streets in residential areas, the volume of traffic generally accepted or tolerated by residents is significantly

lower. This threshold is referred to as the "environmental capacity" of a roadway. The environmental capacity relates to the perceived speed of traffic, how difficult it is for residents to back out of driveways, and the overall perception of safety. The environmental capacity of a collector street is often cited as 3,000 to 3,500 vpd, while a volume of between 1,500 to 2,000 vpd would represent the maximum volume that could be tolerated by residents of a local street.

Residents of some neighborhoods are interested in traffic calming techniques to mitigate these problems. Traffic calming measures include changes in street alignment, installation of barriers or other physical devices, and enforcement to reduce traffic speeds and/or cut-through volumes, in the interest of street safety, livability, and other public purposes. Increased enforcement has been identified as a key issue at public meetings regarding citywide traffic issues.

Methods of evaluating the need for traffic calming measures include the application of environmental capacity thresholds or the use of a quantitative measure to identify neighborhood traffic impacts such as the Traffic Infusion on Residential Environments (TIRE) index. This index is a numerical representation of a resident's perception of the effect of street traffic on activities such as walking, cycling, playing, and backing a vehicle out of a driveway and is based upon the existing daily two-way volume. Changes in the TIRE index are used to establish levels of significance for discernible changes in daily traffic volume. The TIRE index and associated volume thresholds are included in the appendix.

Congestion at Schools – Over the last five years, vehicle congestion around several City schools has become a controversial issue. The increased traffic is due in part to increased student population, but is more related to a trend of driving students to school instead of walking or bicycling. Most schools in Saratoga generate a higher than typical number of vehicle trips due to a lack of sidewalks on many streets and the ability for students to attend any school within the City. Pedestrian and bicycle safety is a key concern for residents.

Special Event/Concerts – The traffic and parking demand for events at both the Mountain Winery and Villa Montalvo often cause delays for local traffic. Major events at the winery occur on weekends and weekday nights and cause off-peak congestion through the Village and on Pierce Road. The Winery is located in the County, and its operations are not under the control of the City. Off-site parking at West Valley College and shuttle service have been used to reduce traffic for Villa Montalvo events.

Transit

The Santa Clara Valley Transportation Authority (VTA) operates bus, light rail transit, and paratransit service throughout Santa Clara County. Bus transit service within the City of Saratoga includes six fixed routes (Routes 26, 27, 53, 54, 57, and 58), one commuter route (Route 102 on SR 85), and paratransit service (dial-a-ride service for qualified individuals). Figure 5 illustrates the bus route paths operating within the City.

All of the bus routes operating through the City terminate at West Valley College and only provide service on Saratoga-Sunnyvale Road, Saratoga Avenue, Saratoga-Los Gatos Road, Quito Road, and Allendale Avenue. No service is provided on Cox Avenue, most of Fruitvale Avenue, and the southern half of Quito Road. According to current VTA ridership statistics or load factors, only five to 21 percent of the available seat capacity is used on these routes. At public meetings, residents have indicated that the time and number of transfers required to access major destinations (e.g., regional malls, downtown San Jose) are deterrents to transit use.

Figure 5 – Transit

Paratransit service is operated under contract with OUTREACH, a private, non-profit paratransit broker. This door-to-door service is provided to riders whom meet the eligibility requirements established by the Americans with Disabilities Act (ADA).

Bicycle Facilities

Bicycle facilities include bike paths, bike lanes, and bike routes. Definitions of these facility classifications are presented below.

- *Bike Paths.* Bike paths are paved facilities designated for bicycle use that are physically separated from roadways by space or a physical barrier.
- *Bike Lanes.* Bike lanes are lanes on the outside edge of roadways reserved for the exclusive use of bicycles, and designated with special signing and pavement markings.
- *Bike Routes.* Bike routes are roadways recommended for bicycle use and often connect to bike lanes and bike paths. Routes are designated with signs only and may not include additional pavement width.

Saratoga has a limited number of bicycle facilities. Figure 6 depicts the locations of the existing bike lanes, paths, and routes. The paths shown on Figure 6 are multi-use trails and serve both bicycles and pedestrians.

Although the segment of Fruitvale Avenue between Allendale Avenue and Burgundy Way has painted shoulder stripes, the narrow shoulder includes a concrete valley gutter, which does not meet Caltrans

standards or Valley Transportation Authority guidelines for bicycle lanes.

Pedestrian and Equestrian Facilities

Pedestrian facilities improve safety for pedestrians and can also encourage the use of alternative modes of transportation. These facilities include sidewalks, paths, trails; pedestrian bridges, crosswalks, and pedestrian signals with crosswalks at signalized intersections to accommodate pedestrian circulation.

Many of the streets in Saratoga do not have sidewalks. Of particular importance are many of the streets leading up to and around elementary schools that do not have sidewalks or are served by discontinuous sidewalk segments. Lack of sidewalks forces school children to share the roadway with vehicles. In many instances, parents elect to drive their students to school. Also noted as a problem is the number of gaps in pedestrian paths or sidewalks on the major and minor arterial roadways.

The City of Saratoga prepared a Parks and Trails Master Plan in 1991. This document identified existing and proposed trail easements throughout the City. The existing easements are shown on Figure 7. Both pedestrians and bicyclists can use existing paved trails, like those on Fruitvale Avenue.

Equestrians and pedestrians currently use the existing trail system for recreation purposes. The majority of horseback riding occurs in the western hills of the City near Pierce Road with some activity in other areas including Sobey Road and south of SR 9.

Figure 6 – Bicycle Facilities

Figure 7 – Existing Trail Easements

Rail Service

The City is currently served by a single rail line that extends generally parallel to SR 85 between Prospect Road and Quito Road. The rail line crosses six streets in Saratoga with one grade-separation (Saratoga Road), four at-grade crossings with gates (Prospect Road, Saratoga-Sunnyvale Road, Glen Brae Drive and Quito Road), and one at-grade crossing with lights but no gates (Cox Avenue).

The railroad is currently operated by Union Pacific Company and is only used by Hansen-Permanente (formerly Kaiser-Permanente) Concrete. Trains currently operate between 1:00 pm and 6:00 pm on Mondays, Wednesdays, and Fridays. Trains do not stop within the City and do not substantially impact vehicular traffic.

III. OTHER CIRCULATION ISSUES

In addition to the transportation facilities and services described in Chapter II, the circulation-related issues in this chapter will be used to formulate policies in the Circulation and Scenic Highway Element update.

Traffic Calming

As noted in Chapter II, some local streets have experienced increases in traffic resulting from changes in travel patterns due to the construction of SR 85. For example, residents in the Prides Crossing neighborhood have indicated that Miller Avenue has had a problem with increased traffic since SR 85 opened in 1994. The need and feasibility of installing traffic calming measures to discourage the amount of through traffic on Miller Avenue will be investigated. Other problems such as speeding (e.g., on Pierce Road and Seagull Avenue) are also potential candidate streets for calming measures. Traffic calming measures are the focal point of overall neighborhood traffic management.

Suggested Routes to School

As noted in Chapter II, the rural planning principles employed in Saratoga include not constructing sidewalks on many local residential streets to reduce the amount of impervious surface and to maintain a high level of visual quality. Given the relatively low traffic volumes on most streets, the combination of pedestrian and vehicle traffic in the roadway does not typically result in problems. However, many parents of elementary school-age

children do not permit their children to walk to school because of potential vehicle-pedestrian conflicts. Painted crosswalks at some intersections help to delineate the desired path for students walking between various neighborhoods and their school. Thus, many students are driven to and from school, and the result is increased congestion and delay. These factors contribute to an increase in the vehicle-pedestrian conflict potential, especially in the immediate vicinity of the school. Although the school district has been actively participating in efforts to increase ridesharing to reduce overall traffic volumes at elementary schools, additional measures will be necessary to decrease the number of students driven to school.

Part of the problem may be that many parents are unaware of route options their children could use to get to and from school. Some routes include streets with traffic control devices that make drivers more aware of other vehicular and pedestrian traffic. For example, students crossing at a stop sign-controlled intersection is preferable over crossing at an uncontrolled location.

The four elementary school districts in Saratoga (Saratoga Union, Cupertino Union, Campbell Union, and Moreland) and the various private schools have not formally adopted a Suggested Routes to School Program. This program would help parents identify appropriate travel paths for student pedestrians and bicyclists. Implementation of such a program could also help to reduce vehicle trip generation at most school locations

and through neighborhoods. Although the district would likely establish and maintain such a program, the City would be an effective partner in preparing the inventory of traffic control devices and streets.

Parking

Parking is typically considered a separate issue from overall circulation. However, the presence of on-street parking has a direct effect on roadway capacity. In addition, off-street parking deficiencies can cause vehicles to re-circulate on public streets, which also increases traffic volumes and congestion by reducing capacity for through traffic.

Saratoga's zoning ordinance includes parking requirements to ensure that adequate numbers of spaces are provided on-site for most uses, as well as minimum stall dimensions that are consistent with current standards for other jurisdictions. These regulations apply to all new developments and may be applied to existing uses that are modified or expanded.

Valet parking is provided at two restaurants on Big Basin Way (SR 9) in the Village area. At peak times, parking demand exceeds the available number of on-street and off-street spaces in the immediate vicinity of these establishments. The valet service is provided for Viaggios on 4th Street and for the Plumed Horse on Big Basin Way past 4th Street. This is one method of maximizing the use of available parking and reducing conflicts with street traffic.

Transportation Demand Management Programs

Transportation Demand Management (TDM) programs are designed to reduce the number of vehicle trips and the amount of peak period traffic by encouraging employees to use modes other than the single-occupant automobile for transportation to and from the workplace and to travel during non-peak times. Typical TDM components include:

- On-site TDM coordinator
- Carpool/vanpool match program and preferential parking for carpools/vanpools
- Secure bicycle storage facilities
- On-site shower facilities
- Flex-time (i.e., staggered hours that begin and/or end outside the peak commute hours)
- Provisions for telecommuting
- Shuttle bus service
- Guaranteed ride home program
- Cash incentives/Transit subsidies/On-site transit pass sales
- Education programs

The City does not have adopted policies or implementation programs regarding specific TDM measures. Recent court decisions have restricted the methods by which jurisdictions can require TDM measures for developments. Typically, TDM measures are included as part of a project through the development agreement process for new projects or through approval of use permit modifications for existing developments.

IV. SCENIC HIGHWAYS AND CORRIDORS

Background

The undulating terrain and extensive natural and cultivated foliage in and around Saratoga provide scenic drives throughout the City. As development in the hillside areas has increased, the City has employed strict policies to preserve the natural beauty of the mountains. In addition, many of the City's collector and local streets are very attractive. A scenic highway provides the motorist with a continuous, varied visual experience. Scenic highways are selected by how pleasing the field of vision is for touring vehicles.

Roadways can be officially designated as "scenic" through either the State Scenic Highways program or through the Santa Clara County Scenic Highways program. The State Scenic Highway Element's legislative authority was passed into State law on April 16, 1971. Saratoga adopted its Scenic Highways Element in 1974. The most recent Guidelines for the Official Designation of Scenic Highways was updated by Caltrans in March 1996. The purpose of the element is to inventory scenic corridors and to develop plans to protect them. The Master Plan for Scenic Highways identifies those highways that are eligible for official designation as State Scenic Highways. Eligible highways can only become officially designated by the State after the local jurisdiction has adopted and implemented a plan to protect and enhance the scenic corridor. A detailed list of current officially designated highways and eligible routes is maintained by Caltrans and is available on its web site (www.dot.ca.gov).

Several steps are required for an eligible highway to receive an official designation. A city or county with jurisdiction over lands adjacent to the highway must first inspect and evaluate the route to determine if: (1) it meets the current scenic highway criteria, and (2) the extent to which, if any, development has intruded on the scenic views. Next, the jurisdiction must submit a Resolution of Intent Package to the Departmental Transportation Advisory Committee (DTAC) through the appropriate Caltrans district office. The package should include a Resolution of Intent by the local governing body, maps showing the scenic corridor and existing zoning, a map overlay of development in the corridor, a narrative description of the scenic elements, and a videotape illustrating a representative portion of the segment. If the DTAC evaluates the information and concurs that the scenic criteria are met, then the jurisdiction must prepare and adopt a scenic corridor protection program. Once DTAC determines that the proposed program meets the legislative standards, the committee makes a formal recommendation that the Caltrans Director designate the highway as scenic.

State Scenic Highways rely on local zoning and other measures for maintenance and protection. The State Department of Public Works must be convinced that local government agencies have taken sufficient steps to protect the scenic corridor by regulating land use and the intensity of development. The State protects the highway by landscaping and by securing adjacent property easements to protect and enhance the motorists' view.

Easements allow control of potential visual intrusions such as outdoor advertising, structure design and appearance, earthmoving, and inappropriate landscaping.

Besides scenic beauty, a highway must meet the standards of a complete highway to qualify as an officially designated scenic highway. A complete highway incorporates safety, utility, economy and beauty and must be reviewed by State staff. Upon official designation, the route is officially delineated on maps and publications and posted with the California Poppy Scenic Highway emblem.

County roadways may be designated County Scenic Highways and are protected by the Santa Clara County zoning ordinance which requires 100-foot setbacks for buildings and structures along the scenic route. The County Board of Supervisors, on advice from the State Department of Transportation, designates those roads that qualify as officially designated County Scenic Highways.

Existing Scenic Corridors

Currently, SR 9 is officially designated as a State Scenic Highway Corridor from the Los Gatos city limit (east of Saratoga), through the Village, to SR 35/Skyline Boulevard at the Santa Cruz County Line (i.e., at Saratoga Gap). Four roadway segments are currently designated as County Scenic Roadways: Skyline Boulevard (Saratoga Gap to Loma Prieta), Congress Springs Road (Saratoga Gap to the Saratoga City limit), Bohlman Road/Montevian Road, and Sanborn Road.

V. FUTURE CONDITIONS

The City of Saratoga is essentially built out with the majority of vacant parcels located in the western and southern hillside areas. These areas are typically zoned for single-family residential development at low densities. Some redevelopment in the City is projected, however, the commercial areas are generally well-established and substantial traffic growth from land uses in the City is expected to be limited. The vast majority of increases in traffic volumes is expected to result from increased through traffic; that is, vehicles that do not have an origin or destination in Saratoga.

Future Traffic Volumes

Future traffic volumes for the major streets in Saratoga were developed based on forecasts from the Countywide model maintained by the Center for Urban Analysis, a branch of the Santa Clara County Planning Division. The Countywide model includes a roadway network of the major streets and highways in the County plus land use aggregated for specific geographic areas. Models representing 1997 and 2025 roadways and land uses were used for this analysis. The land use assumptions are based on Projections '98, a set of forecasts prepared by the Association of Bay Area Governments (ABAG). A review of the land use inputs show that the total population increase between 1997 and 2025 is slightly more than 6,000 persons, while the total number of jobs in the City is expected to increase by approximately 1,100 during this period. Both the population and employment projections are being reviewed by City staff and will

be revised for future ABAG projections.

AM and PM peak hour traffic forecasts were obtained from base year (1997) and future year (2025) conditions roadway segments. The traffic forecasts were used to factor existing AM and PM peak hour intersection traffic volumes using an adjustment technique called the Furness process. At some locations, the model traffic volumes are considered conservative (i.e., higher than expected) because the model roadway network is skeletal. It does not include most of the collector streets that connect to the major and minor arterial roadways that would also carry some traffic. Therefore, all of the traffic is projected on the major roadways only.

On event days, the Mountain Winery is expected to be one of the largest single generators of new daily traffic on City streets. However, much of the Winery traffic occurs outside the typical weekday peak hours and on weekends. An environmental impact report (EIR) was recently prepared and approved by the County of Santa Clara for legal conformance and to address future expansion plans. The EIR included a detailed analysis of future traffic conditions and identified specific measures to address potential transportation impacts. Impacts of specific development projects are not addressed in the Circulation Element.

Future Traffic Operations

The final future year traffic volumes were then input to level of service calculations

to estimate intersection operations in 2025, assuming no new roadway improvements in the City. Some adjustments for signal timing or phasing were incorporated,

provided that they did not require any modifications to the type of turn permitted in each lane. A summary of the 2025 levels of service is presented in Table 4.

TABLE 4
Year 2025 Intersection Levels of Service¹
(Assumes No New Roadway Capacity Improvements)

Intersection	Traffic Control	Peak Hour	Delay ²	LOS ³
#1 Saratoga-Sunnyvale Rd./Prospect Rd.	Signal	AM PM	77.0 59.1	F E-
#2 Miller Ave./Prospect Rd.	Signal	AM PM	25.1 29.3	D+ D
#3 Saratoga-Sunnyvale Ave./Cox Ave.	Signal	AM PM	17.6 30.4	C D
#4 Saratoga Ave./Cox Ave.	Signal	AM PM	79.5 151.5	F F
#5 Quito Rd./Cox Ave.	Two-Way Stop	AM PM	4.4 (> 60) > 60 (> 60)	A (F) F (F)
#6 Quito Rd./McCoy Ave.	Two-Way Stop	AM PM	6.3 (> 60) 3.2 (> 60)	B (F) A (F)
#7 Saratoga Ave./NB SR-85	Signal	AM PM	17.4 22.2	C C
#8 Saratoga Ave./SB SR-85	Signal	AM PM	18.7 18.1	C C
#9 Saratoga Ave./Dagmar Dr.	Signal	AM PM	17.4 32.1	C D
#10 Saratoga Ave./Scotland Dr.	Signal	AM PM	18.1 37.6	C D-
#11 Saratoga Ave./Fruitvale Ave.	Signal	AM PM	46.5 35.5	E D
#12 Fruitvale Ave./Allendale Ave.	Signal	AM PM	21.7 18.3	C C
#13 Quito Rd./Allendale Ave.	Signal	AM PM	17.6 13.1	C B-
#14 Quito Rd./Pollard Rd. ⁴	Signal	AM PM	16.2 18.9	C+ C
#15 Saratoga-Sunnyvale Rd./Saratoga Ave.	Signal	AM PM	27.6 194.0	D+ F
#16 Fruitvale Ave./Saratoga-Los Gatos Rd.	Signal	AM PM	25.4 12.1	D+ B

Notes: ¹ Operations based on adjusted Year 2025 forecasts.

² Average stopped delay per vehicle in seconds for signalized intersections and average total delay per vehicle in seconds for unsignalized intersections. Reported delay and LOS at unsignalized intersections is for overall intersection, with delay and corresponding LOS for worst-case movement shown in parentheses.

³ LOS = Level of service. Calculations performed using TRAFFIX program.

⁴ Assumes overlap on westbound right-turn movement.

As shown in Table 4, six of the 16 study intersections are projected to operate at an unacceptable level (LOS E or F) during one or more peak hours under 2025 conditions. These locations include:

- Saratoga-Sunnyvale Road/Prospect Road (AM and PM peak hour)
- Saratoga Avenue/Cox Avenue (AM and PM peak hour)
- Quito Road/Cox Avenue (AM and PM peak hour)
- Quito Road/McCoy Avenue (AM and PM peak hour)
- Saratoga Avenue/Fruitvale Avenue (AM peak hour)
- Saratoga Sunnyvale Road (SR 9)/Saratoga Avenue (PM peak hour)

In addition, the two intersections at the SR 85/Saratoga Avenue interchange are expected to operate at unacceptable levels during both peak hours even though the results in Table 4 indicate that these locations are projected to operate at LOS C. The level of service analysis methodology does not account for ramp metering at the on-ramps, which adds substantial congestion at peak times (6:00 am to 9:00 am northbound and 3:00 pm to 7:00 pm southbound). With increased traffic on SR 85 in the future, both on-ramps will likely be metered during both peak periods. Additional queuing caused by metering will further degrade operations at these intersections and could have secondary impacts at adjacent intersections. Installation of queue loops at the ends of the on-ramps could help to control the traffic signals at the intersections. By extending the red phase(s) for left-turns onto the ramp, vehicles are less likely to block the intersection.

Based on the substantially worse operations at several of the study locations, a review of the unadjusted model forecasts was completed to verify the intersection analysis. This review showed that the model is assigning a substantial volume increase on Big Basin Way (SR 9) west of the City, especially during the PM peak hour. This increase is likely caused by congestion on southbound SR 85 towards SR 17, as well as from other area developments including the Mountain Winery. Since SR 9 is a parallel roadway to SR 17, Saratoga-Sunnyvale Road and Big Basin Way are expected to be natural diversion routes for traffic destined for the Santa Cruz Mountains and other areas south of Santa Clara Valley.

Potential Roadway Improvements

Improvements to provide acceptable operations (i.e., LOS D or better) in 2025 were identified for each location. A brief description of each is presented below. Potential right-of-way and construction issues associated with these improvements are also identified.

Intersection Improvements

Saratoga-Sunnyvale Road/Prospect Road

To provide acceptable operations during both peak hours, Saratoga-Sunnyvale Road would have to be widened to accommodate three through lanes in each direction at the intersection. To be truly effective, these lanes would have to extend at least 500 feet beyond the intersection before any taper or lane drops. This improvement would require right-of-way acquisition and a wider pavement cross-section. Any improvements at this

intersection will require coordination with the Cities of San Jose and Cupertino.

Saratoga Avenue/Cox Avenue

The overall increase in traffic at this intersection plus the current split phase signal operation on Cox Avenue contributes to degradation of operations at this intersection. Split phasing (i.e., where traffic on each opposing approach gets a separate phase) is less efficient than protected phasing, where the opposing left-turns and through movements can move simultaneously. Split phasing is required because of the limited right-of-way. Forecasts at this intersection are considered conservative because of the model network configuration.

Improvements to provide acceptable operations at this intersection would include the addition of turn lanes on the Cox Avenue approaches and modification of the signal to provide protected left-turns on Cox Avenue. These modifications would improve both existing and future conditions. Additional through capacity on Saratoga Avenue would improve operations, but would not provide LOS D operations by itself in 2025. Given the right-of-way constraints at this intersection (especially on the west leg), the addition of turn lanes on Cox Avenue is not considered feasible until adjacent properties redevelop.

Quito Road/Cox Avenue and Quito Road/McCoy Avenue

The projected increases in traffic on Quito Road will substantially reduce the number of available gaps or spaces between through vehicles. Additional turn lanes on the side street approaches (Cox Avenue

and McCoy Avenue) would have a negligible effect on operations. Signalization of these intersections would provide LOS B operations at both of these intersections in 2025.

Saratoga Avenue/Fruitvale Avenue

The addition of a second left-turn lane from northbound Fruitvale Avenue to Saratoga Avenue would provide acceptable operations in the AM peak hour under 2025 conditions. This improvement could be accommodated in the existing right-of-way on Saratoga Avenue, but could require some right-of-way on Fruitvale Avenue. A minor encroachment into the adjacent orchard may be needed to implement this improvement.

Saratoga-Sunnyvale Road/Saratoga Avenue-Big Basin Way (SR 9)

As noted previously, substantial increases in traffic on Saratoga-Sunnyvale Road and Big Basin Way are forecast by the traffic model. During the PM peak hour, the southbound right-turn volume from Saratoga-Sunnyvale Road to Big Basin Way is projected to be very high. To reduce delay, a separate southbound right-turn lane would have to be constructed and the signal phasing would have to be modified to provide overlap for the southbound right-turn lane. The addition of a turn lane would likely require right-of-way acquisition and pavement widening on the west side of Saratoga-Sunnyvale Road north of Big Basin Way. Improvements would have to be coordinated with Caltrans because of the SR 9 designation.

With the exception of several roadway segments, most of the roadway facilities

are built out and additional travel lanes will not be added. To not preclude potential intersection improvements, the City should ensure that development and redevelopment projects in the immediate vicinity of the following intersections provide right-of-way dedication to accommodate the improvements described above:

- Saratoga-Sunnyvale Road/Prospect Road
- Saratoga Avenue/Cox Avenue
- Saratoga-Sunnyvale Road/Big Basin Way (SR 9)

Roadway Segment Improvements

General maintenance of roadways is part of the City's typical operating activities and no specific roadway improvements were identified through the Future Conditions analysis. One exception however, is Pierce Road with its location in the hillside area, narrow travel lanes at some locations, and lack of pedestrian amenities. As noted in Table 3, Pierce Road is operating near capacity on a daily basis.

The *Hillside Specific Plan* (adopted June 15, 1994) includes policies and design guidelines for improving and widening Pierce Road. These improvements will enhance flow and improve safety. Where feasible, paths, trails and sidewalks should be added to provide a better physical separation between vehicles and pedestrians.

Potential Impacts of New SR 85 Interchanges

The option of additional interchanges on SR 85 in Saratoga was discussed and a

Citywide vote taken as part of the detailed planning process for SR 85 in the late 1980s and 1990s. A general election was held on November 8, 1998 as an advisory measure to ask residents whether the Saratoga City Council should amend the freeway agreement to provide for one or more interchanges within the City. Of the ballots cast, 9,240 were in favor of freeway off ramps in Saratoga and 7,245 were opposed. Of those who voted to express a preference for interchange locations, 5,400 voted for Saratoga Avenue, 3,643 voted for Prospect Road, 1,965 voted for Quito Road and 3,265 voters favored more than one. Thus, the City decided that the increased surface street traffic, congestion, and noise in the immediate vicinity of an interchange would not be acceptable at any locations besides Saratoga Avenue.

If other interchanges are to be reconsidered in the future, additional detailed studies will have to be conducted to fully evaluate the impacts of a new freeway interchange, and extensive public and environmental review would be required. Based on precedent set by approval of the Saratoga Avenue interchange, the addition of any new interchange should require a Citywide vote for approval. The following preliminary assessment is presented to illustrate the potential traffic impacts of providing additional access to SR 85.

As noted previously, the existing and projected operations at the SR 85/Saratoga Avenue are and are expected to be substantially worse than the results of the level of service calculations for each scenario. The better than expected LOS results occur because the intersection analysis method cannot accurately reflect

the capacity-reducing effect of ramp metering on the northbound and southbound on-ramps during the peak commute periods. Although a more detailed analysis of future operations could be conducted using more complex analysis tools, the magnitude of the projected peak-hour volumes indicates that there will be substantial congestion at this interchange if no additional capacity improvements are implemented. Accordingly, the feasibility and traffic impacts of providing additional ramp access to SR 85 within Saratoga was assessed.

Based on the City's current roadway network, new interchanges could theoretically be constructed at three locations: Prospect Road, Cox Avenue, or Quito Road. The amount of traffic diverted to the ramps was estimated using the Countywide transportation planning model. While provision of additional ramps would reduce traffic at and near the Saratoga Avenue interchange, traffic congestion is expected to increase at intersections near any new interchange. As noted above, any modifications to freeway access would require additional detailed studies and extensive public and environmental review. The conceptual feasibility and localized impact of each interchange are described below.

Prospect Road

Freeway ramps at Prospect Road were analyzed as part of the original traffic studies completed for SR 85 prior to the 1994 opening. In fact, the freeway and adjacent soundwalls were constructed so that ramps could be added at this location.

The Caltrans standard for interchange spacing is approximately one mile to

minimize potential weaving conflicts on the freeway mainline. Given the proximity of the De Anza Boulevard interchange to the west, only ramps to and from the south could be built without substantially modifying the mainline freeway segment. The southern Prospect Road ramps would be located approximately one mile from the northern Saratoga Avenue ramps and would therefore meet the Caltrans spacing standard.

New Prospect Road freeway ramps providing access to and from the south were added to the Countywide 2025 model network and forecasts were prepared for the weekday AM and PM peak hours. A comparison of these forecasts to the 2025 volumes with no ramp modifications showed that the Prospect Road ramps would serve approximately 400 vehicles each in the AM peak hour. During the PM peak hour, the southbound on-ramp is projected to serve approximately 400 vehicles, while the off-ramp volume is forecast to be 750 vehicles. The reduction in volume at the corresponding Saratoga Avenue interchange ramps is forecast to be very low (i.e., less than 100 vehicles).

The results of this evaluation indicate that there will be substantial volume of future traffic on arterial streets that needs to access the freeway but cannot because of congestion at other interchanges. Thus, the Prospect Road ramps are not expected to provide a significant benefit for the Saratoga Avenue interchange based on 2025 traffic forecasts. However, they will provide additional freeway access and reduce traffic on nearby arterial streets.

Cox Avenue

The Cox Avenue overcrossing is located only approximately 1,800 feet from the point where the northern Saratoga Avenue ramps connect to the freeway mainline segment. Thus, ramps to and from the south at Cox Avenue would not meet the Caltrans interchange spacing standard. In addition, the SR 85 freeway is depressed below grade, and the adjacent houses are located relatively close to the overcrossing. To construct ramps, substantial right-of-way acquisition would likely be required. Based on these factors, City staff and the traffic consultant concluded that new ramps connecting Cox Avenue to SR 85 were not feasible, and no traffic evaluation was completed.

Quito Road

The Saratoga City Council extensively reviewed the potential impacts of an interchange at Quito Road during the planning phase for SR 85, and also held extensive discussions with the City of Campbell. Based on these efforts, the City elected not to pursue freeway access at this location.

Similar to Cox Avenue, the Quito Road overcrossing is located approximately 3,100 feet from the Saratoga Avenue interchange and is too close to permit ramps to and from the north. However, ramps to and from the south would be over one mile from the ramps at Winchester Boulevard and would meet the Caltrans spacing standard. Potential construction issues for freeway ramps at this location include the close proximity of the Union Pacific railroad, the location of riparian corridors (Vasona and San Tomas Aquinas

Creeks), and the proximity of the existing traffic signal at Westmont Avenue.

Year 2025 AM and PM peak hour forecasts were generated using the Countywide model assuming new SR 85 freeway ramps to and from the south were constructed at Quito Road. No ramps were assumed at Prospect Road. The Quito Road ramps themselves are forecast to serve between 430 and 825 vehicles depending on the peak hour. A comparison of forecasts showed that the Quito Road ramps would reduce the volume on the northbound off-ramp at Saratoga Avenue interchange by approximately 450 vehicles in the AM peak hour and 275 vehicles in the PM peak hour. The reductions in peak hour traffic for the on-ramp to southbound SR 85 are forecast to be less than 100 vehicles. Therefore, the Quito Road ramps appear to provide a substantially greater benefit at the Saratoga Avenue interchange as compared to the Prospect Road ramps.

In general, the increase in traffic on Saratoga streets will primarily consist of through traffic since the City is essentially built out. However, additional capacity will be required to maintain acceptable traffic operations or to minimize delays to the extent possible at locations with excessive congestion. To maximize the opportunity for future roadway capacity and freeway access, the City should establish a policy to limit any development that could encroach on future interchange footprints at both the Prospect Road and Quito Road overcrossings. As indicated above, more detailed analyses will be required to determine the specific environmental and traffic impacts of new interchange ramps.

Roadway Functional Classifications

Roadway functional classification is used to determine appropriate traffic levels for streets and highways, as well as the appropriate fronting land uses. In addition, roadway classifications are used to determine the applicability of traffic calming devices (see Neighborhood Traffic Management section below). With the potential for increased through traffic in neighborhoods, the City's functional classification system based on the FHWA maps (see Figure 2) needs to be revised. The Circulation Element will include a map showing the new classifications for each roadway.

Transportation Impact Analysis (TIA) Reports

The City requires most new development and redevelopment projects to prepare an impact analysis to evaluate the effect of these projects on the current transportation system. Projects that generate a negligible number of net new trips are typically exempt from this requirement. The TIA process allows the City to request specific improvements from private developers based on the relative impact of the project. Each TIA is also reviewed by the VTA to determine the projected transportation impacts of the proposed land use. To provide additional guidance for developers, the City should set a minimum trip threshold for a TIA exemption, but should maintain the discretion to require focussed studies of operational and safety issues.

The analysis of transportation impacts should be consistent with the criteria maintained by the VTA, the regional planning agency for Santa Clara County.

Impact criteria for freeways, intersections, and alternative modes are published in the VTA's guidelines for impact analyses. For developments that cause significant and unavoidable impacts, the City should use its discretionary approval process to determine whether the project would provide a clear and overall benefit to Saratoga.

Truck Traffic

As noted previously, truck traffic is not considered to be an existing problem in the City of Saratoga. Even with increased through traffic on City streets, the number of trucks without a destination or origin in the City traffic is not expected to increase substantially. Additional development within Saratoga is expected to be limited given the fact that the City is mostly built out. Low volumes of truck traffic will be generated by the construction of new single-family homes or the limited redevelopment of other areas. This traffic is expected to have a negligible effect on overall Citywide circulation.

SR 9 west of Saratoga is not conducive to truck travel because of its design, and large trucks are not permitted on SR 85. Article 9-40 of the City's Ordinance currently identifies designated routes for trucks that do not make local deliveries or pick-ups. Truck routes should include City streets that do not have front-on housing, are not designated as a heritage lane, or have design features that do not favor the movement of large trucks (e.g., sharp curves, narrow travel lanes). Although Saratoga Avenue between Fruitvale Avenue and SR 9 would not be included based on some of the aforementioned criteria, there are no alternative routes that are considered

feasible (i.e., because of the adjacent neighborhoods, narrower lane widths, overhead landscaping, and circuitous path). Given their connectivity between communities, the State Highway segments are considered to be designated truck routes.

Neighborhood Traffic Management

Changes in traffic patterns due to the opening of SR 85 in 1994 and overall increases in traffic within the City have caused some through traffic to divert to residential collector and local streets. The recent increase in the number of citizen complaints regarding the volume and speed of traffic on these facilities has prompted the City to better define its approach to neighborhood traffic management (NTM).

The City of Saratoga should officially adopt its own set of NTM guidelines to specifically define a process for requesting, funding and implementing new or modified traffic control devices. Specific guidelines help to expedite the review of citizen complaints and clearly present the City's approach to traffic calming. An example set of guidelines is included in the technical appendix. These guidelines are based on the guidelines adopted by the City of San Luis Obispo in June 1998 and describe a variety of potential traffic calming measures and how they should be applied. The NTM process also includes a very specific formula for funding that would have to be reviewed in detail by City of Saratoga staff.

A focused study is currently underway to determine if traffic calming devices are

necessary within the Prides Crossing neighborhood, which is generally bounded by SR 85 on the west, Prospect Road on the north, Saratoga Creek on the east, and Cox Avenue to the south. The results of this study will set the framework for the City's guidelines.

Improvements to Other Travel Modes

Similar to the rest of the Bay Area, increasing traffic volumes and the limited opportunities for expanding roadway capacity in Saratoga will increase the demand on alternative travel modes. Potential improvements to each mode are discussed below.

Transit

The Valley Transportation Authority (VTA) controls fixed route bus service in the City of Saratoga. In addition to making service changes to accommodate near-term demand, the VTA does long-range planning to determine future service needs. The City of Saratoga can help improve transit service by requiring new development and redevelopment projects to install bus turnouts, sidewalks, and other transit amenities. In addition, encouraging higher density development in the vicinity of key transit stops such as West Valley College will further expand travel opportunities for residents and employers in the City.

Input from community members, as well as parents of school students, indicates that residents are also interested in improved local transit service within Saratoga. A local shuttle system would allow residents to travel to key destinations (i.e., shopping centers, schools, commercial areas)

without increasing traffic. School traffic is a major generator, especially during the AM peak period. The City should actively pursue a study to assess the feasibility of such a system in concert with the business community and school districts.

Access to the VTA's light rail system will be provided at the future Vasona Junction station just west of Winchester Boulevard and north of SR 85 in the Town of Los Gatos. However, this facility is part of Phase III of the planned Vasona Corridor extension from downtown San Jose and is not expected to be in service before 2005. Currently planned light rail service is expected to have a negligible impact on transit service in Saratoga given the distance between the proposed station and the city, and the fact that many patrons would drive to the new station. A greater impact would occur with provision of light rail service in the SR 85 corridor through the City. The freeway was constructed to accommodate light rail tracks in the center median as part of a future extension.

Bicycle Facilities

The City's *Proposed Bicycle Network* (June 1995) identified a series of bicycle facilities to complete the Citywide bicycle system. The facilities in this document included both bicycle lanes and bicycle route designations. Three roadway cross-sections were included for specific street segments that meet current Caltrans standards and Valley Transportation Authority guidelines. However, no detailed design standards for all Class I (paths), Class II (lanes), or Class III (routes) facilities were described or adopted. Lastly, many of the City's existing bicycle facilities do not include

appropriate signage that identifies lanes or routes.

Field reviews conducted in 1999 showed that, in some cases, bicycle lanes proposed in 1995 could not be accommodated without substantial right-of-way acquisition, or elimination of on-street parking in areas with continuous front-on housing.

A revised set of proposed facilities was prepared based on previous published information and recent field data. The key new facilities include:

- *UPRR Multi-Use Path* – A multi-use path in the Union Pacific Railroad corridor that will ultimately link the City of Cupertino to the Town of Los Gatos.
- *Cox Avenue Route* (Paseo Presada to Quito Road) – Bike lanes were originally identified for this segment, but lanes would require right-of-way acquisition to maintain on-street parking on both sides, or the elimination of on-street parking. Thus, this segment is recommended for designation as a bike route.
- *Fruitvale Avenue Route* (Saratoga-Los Gatos Rd to Burgundy Way) – This segment is recommended as a bike route. Although an asphalt path is located on one side of this segment, the existing width does not meet current Caltrans or VTA standards for multi-use paths and would therefore be limited to pedestrian use only.
- *Allendale Avenue Route* (Quito Road to Vasona Creek) – Similar to the Cox Avenue segment, on-

street parking would have to be eliminated or right-of-way would have to be acquired to accommodate bicycle lanes.

- *Allendale Avenue Lanes* (Fruitvale Avenue to Vasona Creek) – The width of this roadway segment could accommodate bicycle lanes by reducing the width of existing travel lanes.
- *Scotland Drive and Cumberland Drive Route* (Saratoga Avenue to Cox Avenue) – This route is recommended to provide an additional north-south bicycle facility until the UPRR multi-use path is constructed. This route also provides an alternate travel path for inexperienced bicyclists who want to avoid the SR 85/Saratoga Avenue interchange.
- *Miller Avenue Route* (Cox Avenue to Brookview Drive and Somerville Drive to Prospect Road) – The bicycle lanes between Brookview and Somerville Drives were originally installed to provide a safe connection for younger cyclists traveling between neighborhoods west of Miller Avenue and McAuliffe Elementary School on Titus Avenue. A bicycle route is recommended for these segments to provide a continuous facility between Cox Avenue and Prospect Road. Bicycle lanes would require the elimination of on-street parking. The recommended route will be reviewed as part of the Prides Crossing neighborhood traffic study currently underway.

To ensure consistent implementation of the proposed facilities, the City should

formally adopt a set of design guidelines for bicycle facilities. The VTA has prepared a set of technical guidelines for bicycle facilities and services to be used by local agencies in Santa Clara County. All existing facilities should be upgraded to include appropriate signage and pavement markings and modified to meet minimum design standards based on these guidelines. For example, the travel lanes on Fruitvale Avenue between Saratoga Avenue and Burgundy Way should be re-stripped to provide adequate bicycle lane width so that riders do not have to travel in the valley gutter. The City should prepare a Bicycle Master Plan (BMP) that includes all of the proposed facilities and design standards. A formal BMP document substantially improves the City's opportunities for obtaining State funds for bicycle improvements.

Pedestrian Facilities/Trails

As noted previously, most collector and local streets in Saratoga do not have sidewalks, which is in keeping with the rural planning principles maintained by the City for many years. On most minor streets, pedestrians are required to share the roadway with vehicles, which is not typically a problem since traffic volumes are relatively low and travel speeds are usually less than 30 miles per hour. However, a lack of sidewalks in the immediate vicinity of schools can be a problem during peak traffic demand in the morning and afternoon.

A review of all existing major and minor arterial roadways showed that several segments have gaps in sidewalks or separate pedestrian paths. These segments include portions of Prospect Road, Cox Avenue, Saratoga-Sunnyvale Road,

Allendale Avenue, and Saratoga-Los Gatos Road (SR 9). While pedestrians sharing the roadway with vehicles can be accommodated on local streets, pedestrians should not enter the traveled way of roads where traffic volumes and travel speeds are substantially higher. These gaps should be closed to improve pedestrian travel and safety. Enhanced pedestrian access will provide an alternative to automobile travel and will improve access to available transit facilities and services.

The City completed a comprehensive study of multi-use and pedestrian trails as part of a 1991 Parks and Trails Master Plan update. The plan included existing trail easements (both developed and undeveloped) as well as the location of proposed trails. The current plan links the population centers in Saratoga to the great scenic and open space resources available in the Santa Cruz Mountains. Although a primary function of the trail system is to provide recreational opportunities, trail links to sidewalks and low volume streets will provide a travel alternative for other purposes including shopping, school, and employment trips. The City should ensure implementation of the proposed trail system.

Suggested Routes to Schools

Directly related to pedestrian and bicycle travel is the issue of students traveling between their home and school. Although students in Saratoga are permitted to attend any school within their district, the majority of students attend their neighborhood school. In most cities, the majority of students walk or bike to their local school. However, most local and collector streets do not include sidewalks

except in the immediate vicinity of each school. Based on this information and recent studies at several area schools, many Saratoga students are driven to school for two reasons: 1) their residence is located beyond a reasonable walking distance, especially for students in the western and southern hills, and 2) parents perceive that the pedestrian and bicycle routes to school are dangerous because students must share the road with vehicular traffic.

Increased traffic caused by student drop-off and pick-up vehicle travel further reduces safety for those students that do walk or bike. With the help of ALTRANS, the Saratoga Union School District has made efforts to reduce the number of vehicles generated by each school by encouraging and coordinating carpools and providing alternative mode information to parents. These entities have also held workshops and education seminars on bicycle safety.

Although school districts have the most direct contact with parents and students, the City of Saratoga should work with each district to ensure that students are provided with as much information as possible regarding safe travel to and from school. Thus, the City should work with each district to expand the current education efforts and prepare *Suggested Route to School* maps for each campus, and a *Guidelines for Safe Walking and Bicycling* handbook. Each of these items is described briefly below.

Suggested Route to School maps include all bicycle and pedestrian-related facilities and traffic control devices including: crosswalks, traffic signals, stop signs, paved sidewalks, and school sign

installations. An example map for a ¼-mile radius around Foothill Elementary School is included in the technical appendix. This type of map should be used by parents and students to choose the most appropriate route to school that maximizes the use of devices that control traffic and warn drivers of pedestrians. The example map is intended for informational purposes only and does not imply a guarantee of safety for any particular street or route.

A Guidelines for Safe Walking and Bicycling handbook is an informational pamphlet for parents and teachers to provide guidelines for safe pedestrian and bicycle travel (a sample booklet is included in the appendix). It provides text and illustrations to show the correct procedures for minimizing potential conflicts with vehicles and includes suggested activities that parents can do with their children. A section for parents with tips on selecting a suggested route to school is also included. This sample booklet should be reviewed by both the school district and City staff and included as part of future student education efforts. Similar to the sample route map, the sample handbook does not imply a guarantee of safety. Parental education and supervision is a key element of a child's approach to traveling on or near roadways.

Each District should continue its education programs and should encourage students to walk and bicycle to school as appropriate. The City should continue to pursue opportunities to enhance pedestrian and bicycle facilities, especially in the vicinity of schools.

Potential Scenic Highways and Corridors

Several roadways in or near the Saratoga Sphere of Influence have the potential for protection under the State and County scenic highways programs. These facilities are described below. Local policies and programs to maintain scenic corridors within the City of Saratoga are also presented.

Eligible State Highways

Besides SR 9, the only other highway that is currently considered eligible for Scenic Highway designation is SR 35 from SR 9 (at Saratoga Gap) to the Santa Clara County-San Mateo County line. Since the majority of views from this segment are to the west and south, Santa Cruz County is ultimately responsible for developing a scenic highway program for this segment. In San Mateo County, SR 35 is an officially designated route.

The section of Saratoga-Sunnyvale Road designated as SR 85 (from the De Anza Boulevard interchange in Cupertino to Big Basin Way in Saratoga) is expected to be relinquished to the City of Saratoga and would likely have to be processed under the County's scenic highway program. However, this corridor requires substantial visual and aesthetic improvements before it could be considered by County and State scenic highway review committees.

Eligible County Roadways

Numerous corridors in the Saratoga Sphere of Influence could be considered under the County's Scenic Highways protective ordinance. The most likely candidate roadway segments are Mt. Eden

Road between Pierce Road and Stevens Canyon Road (only a one-mile segment west of Pierce Road is in the City). The City should support designation of such facilities to increase the aesthetics of the surrounding area.

Local Measures to Maintain Scenic Roadways

Arterial roadways and collector and local streets are not eligible for the existing scenic highway protection programs. However, efforts to beautify these facilities contribute to the overall aesthetic appeal of the City. Several locations within the City have been identified as having poor visual quality areas because of extensive commercial development and/or limited landscaping. Key corridors that could be improved include portions of Saratoga Avenue, Quito Road, and Prospect Road. The gateway from Cupertino into Saratoga at the Saratoga-Sunnyvale Road/Prospect Road intersection is often cited by residents as an example of where landscaping and beautification is needed.

The City of Saratoga has numerous ordinances and procedures to require new development projects, redevelopment projects, and property/building modifications to contribute to the establishment and maintenance of scenic corridors. These measures include:

- Parcel re-zoning
- Minimum site frontage requirements
- Subdivision requirements for development projects to maintain topography

- Landscaping requirements between fences/walls and major roadways, and on dead-end streets
- Design review of most residential and commercial developments by the Planning Commission
- Permit requirements for tree removal
- Building structure height restrictions
- Requirements for underground utilities/wiring
- Special ordinances for hillside subdivisions to provide erosion control
- Establishment of scenic easements in hillside subdivisions
- Aesthetic/scenic policies in the Hillside Specific Plan

VI. GOALS, POLICIES AND IMPLEMENTATION MEASURES

Based on the existing features of the transportation system in the City and the projected future travel demand, a set of updated goals, policies, and implementation measures was developed for the Circulation and Scenic Highway Element. This information has been modified by the Public Safety Commission and Planning Commission, and the City Council may make further revisions as appropriate.

Circulation Element was updated to further protect local neighborhoods and to set forth policies that will enhance travel throughout the City. The goals, policies and implementation measures begin on the following page.

Background

The existing low-density residential land use pattern combined with a limited amount of commercial support services, entertainment centers, and employment centers do not strongly support the need for a complex transit system. However, expanded transit service is needed to provide transportation opportunities for all residents and is an important alternative to automobile use. The use and expansion of other alternative modes including bicycling and walking is another key issue for providing a comprehensive Citywide transportation system.

The “backbone” of the City’s roadway network is a set of major and minor arterial roadways that provide the link between neighborhoods and the City’s commercial services, and also the regional freeway system. Local and residential collector streets represent the rural nature of Saratoga. The pattern and design of local streets help to shape the image and identity of neighborhoods, influence perceived safety, change communication between neighbors, and increase the attractiveness of alternative modes. The

CIRCULATION AND SCENIC HIGHWAY ELEMENT (CI)

A circulation element consisting of the general location and extent of existing and proposed major thoroughfares transportation routes, terminals, and other local public utilities and facilities, all correlated with the land use element of the plan.

A scenic highway element for the development, establishment, and protection of scenic highways pursuant to the provisions of Article 2.5 commencing with Section 260 of Chapter 2 of Division 1 of the Streets and Highways Code.

OVERALL TRANSPORTATION SYSTEM

Goal

- CI.1.0 Provide a balanced transportation system in Saratoga to give mobility to all segments of the community and to maintain the City's rural character.

Policies

- CI.1.1 The City shall encourage and participate in the implementation of a variety of modes of transport to serve Saratoga.
- CI.1.2 Encourage development of inter-regionally based cooperation to support local and regional transportation solution and improvements.

STREET SYSTEM AND STANDARDS OF SERVICE

Goals

- CI.2.0a Facilitate the safe movement of vehicular traffic within and through the City, taking into consideration the environmental, historical, and residential integrity of the City to maximize benefits and minimize adverse impacts and costs.
- CI.2.0b For traffic management and street design, balance the efficiency of vehicular traffic with the safety and livability of residential areas.

Policies

- CI.2.1 Make efficient use of existing transportation facilities and strive to reduce the total number of vehicle miles traveled through the arrangement of land uses, improved alternative modes, and enhanced integration of various transportation systems.
- CI.2.2 Maintain and develop a City-wide street system that manages vehicular access, but also provides for emergency access.

- CI.2.3 Adopt the proposed roadway classifications as shown on Figure C-2 and as described in the Background Report.
- CI.2.4 Maintain a minimum Level of Service (LOS) D operations standard at all signalized street intersections that are under City jurisdiction. (Intersections and roadways included in the Santa Clara County Congestion Management Program are held to a LOS E standard).
- CI.2.5 Require public review of any development project or other proposal that causes an intersection to degrade by one or more levels of service (e.g. LOS A to B, LOS B to D).
- CI.2.6 Accept Level of Service E or F operations at City-maintained signalized intersections after finding that no practical and feasible improvements can be implemented to mitigate the lower levels of service. A proposed development that exacerbates LOS E or F operations and causes a significant intersection impact should be considered for approval if it will provide a clear, overall benefit to the City (e.g., library expansion or relocation, new community center).
- CI.2.7 Ensure that new development or redevelopment projects provide adequate property dedication to accommodate future roadway improvements at key intersections and other problem areas.
- CI.2.8 Manage traffic flow on major and minor arterial roadways to discourage through traffic in residential neighborhoods.
- CI.2.9 Align and design through collector streets to minimize adverse impacts on the character of residential neighborhoods through which they pass, while functioning efficiently to collect and distribute traffic.
- CI.2.10 Design new local streets to reduce travel distance, promote alternative modes, and provide a more even distribution of traffic.
- CI.2.11 Establish the primary access for major traffic generators on arterial roadways and design overall access to minimize traffic intrusion to residential neighborhoods.
- CI.2.12 Strive to maintain traffic volumes and speeds on collector and local streets that are compatible with the character of the adjacent land uses, the function of the street, and bicycle and pedestrian traffic.
- CI.2.13 Protect the integrity of and improve existing hillside streets by planning future development according to existing street capacities.

- CI.2.14 Focus future improvements on the most congested intersections to maintain an acceptable level of mobility for all modes of transportation.
- CI.2.15 Require development projects to mitigate and reduce their respective traffic and parking impacts by implementing practical and feasible street improvements.

Implementation Measures

- CI.2.16 Continue to use the Capital Improvement Program to program and implement needed improvements to the street system.
- CI.2.17 Implement roadway and signal timing modifications to improve operations and enhance safety (e.g., lengthen turn pockets, adjust left-turn phases, widen lanes).
- CI.2.18 Establish street and driveway accessibility requirements for all streets designated as a major or minor arterial roadway as shown on Figure C-2. Ensure that driveway or street access does not substantially impede arterial traffic flow as part of the City review process for individual development projects.
- CI.2.19 Install coordinated signal systems on all major arterial roadways in the City to improve traffic flow as appropriate. Funding should be obtained from all available City, County, State and Federal funding sources, and developer contributions.
- CI.2.20 Evaluate the need for upgrading or enhancing intersection control (e.g., signalization, stop signs) at existing intersections on arterial roadways and collector streets to improve overall access and circulation.
- CI.2.21 Install traffic signals to serve existing and projected traffic demand, provide acceptable traffic operations issues, and enhance pedestrian safety.
- CI.2.22 Require a transportation analysis for all development projects resulting in 50 or more net new daily trips. The analysis shall identify potential impacts to intersection and roadway operations, project access, and alternative travel modes, and shall identify feasible improvements or project modifications to reduce or eliminate impacts. Impact significance should be consistent with the criteria maintained by the VTA. City staff should have the discretion to require focussed studies regarding access, sight distance, and other operational and safety issues.
- CI.2.23 Evaluate development proposals and design roadway improvements based on established Level of Service standards.

- CI.2.24 Require that roadway improvements identified as mitigation measures for development projects be in place prior to issuance of occupancy permits.
- CI.2.25 Require new development or redevelopment projects to dedicate property to accommodate roadway improvements at the following intersections: Saratoga-Sunnyvale Road/Prospect Road, Saratoga-Sunnyvale Road/Saratoga Avenue, and Saratoga Avenue/Cox Avenue.
- CI.2.26 Identify potential capacity improvements and access modifications to maintain adequate circulation in the vicinity of the Civic Center, West Valley College, Redwood Middle School, the Public Library, St. Andrews School and Sacred Heart.
- CI.2.27 Consider paying for improvement costs to serve a development project, as appropriate, where the City's economic development interests may be served.
- CI.2.28 Develop and adopt a Neighborhood Traffic Management (NTM) Plan to specifically include a process for identifying problem areas, and for evaluating, funding, and implementing traffic calming measures to reduce high traffic volumes and travel speeds on City streets.
- CI.2.29 Design local streets to carry low traffic volumes at low speeds and to function safely while minimizing the need for traffic control devices or enforcement. Physical features should include gentle curves, changes of grade, narrow widths, short lengths, and T-intersections where feasible.
- CI.2.30 Design streets to minimize impacts to topography, riparian habitats and wildlife corridors.
- CI.2.31 Implement the action programs identified in the 1994 Hillside Specific Plan to provide adequate vehicular access including improvements identified for Pierce Road consistent with Policy CI.2.13. Where feasible, improvements will include widening of travel lanes, increasing vertical clearance, installing additional signs, and providing new pavement overlays to improve safety.

TRUCK TRANSPORTATION

Goal

- CI. 3.0 Limit the intrusion of commercial truck traffic on streets within the City.

Policies

- CI.3.1 Require trucks to only use the designated routes shown on Figure C-3 unless making a local delivery.
- CI.3.2 Encourage or require deliveries to be made during off-peak periods (i.e., outside the morning and evening commute periods), especially in areas where intersections operate at LOS E or F during the peak periods.

Implementation Measures

- CI.3.3 Continue to strictly enforce the truck route ordinance by citing violators.
- CI.3.4 Require as part of the development agreement for new projects with regular truck deliveries that such deliveries be made outside the typical peak commute travel periods (e.g., 7:00 am to 9:00 am and 4:00 pm to 6:00 pm) as appropriate.
- CI.3.5 Establish and maintain reserved commercial truck loading zones on public streets in appropriate areas such as the Village. Time limits for designated loading areas may be established to allow public on-street parking in loading zones at other times.
- CI.3.6 Require new or redevelopment projects to provide on-site truck loading areas except for areas such as the Village with small commercial lots. Enforcement will be provided by the Sheriff's Department similar to other on-street parking areas in the City.

TRANSIT

Goals

- CI.4.0a Promote local and regional transit as a viable alternative to automobile travel for destinations within and outside the City.
- CI.4.0b Promote the use of alternative modes of transportation by improving the capacity, safety, accessibility, and convenience of existing and planned transit, bicycle and pedestrian systems.

Policies

- CI.4.1 Coordinate with the Valley Transportation Authority to increase service range and frequency within the City as appropriate. Existing service is illustrated on Figure C-4.

- CI.4.2 Install transit improvements to improve service, increase safety, and maintain traffic flow on streets serving as transit routes.
- CI.4.3 Encourage the public school districts, private schools, recreation groups or other operators to develop a local bus system and to expand ride-sharing activities that will help to reduce school-generated vehicle traffic in neighborhoods and on City streets. Bussing should be the first measure considered to reduce school-generated traffic before substantial roadway capacity enhancements are implemented.
- CI.4.4 Investigate the feasibility of a local shuttle service within Saratoga to reduce local traffic volumes on City streets and overall parking demand. The feasibility study shall identify potential routes and funding sources.

Implementation Measures

- CI.4.5 Require development projects to dedicate right-of-way for purposes of constructing bus turnouts and/or bus shelter pads on major and minor arterial roadways as appropriate.
- CI.4.6 Provide seating and shaded waiting areas at transit stops, with stop locations near entrances of buildings to encourage ridership.
- CI.4.7 Recommend to the Valley Transportation Authority specific streets (e.g., Cox Avenue) to be included on new or modified.
- CI.4.8 Improve the links of local transportation systems and alternatives such as bicycling and walking with private and public regional transit such as bus transit, light rail, and CalTrain. Bicycle and pedestrian improvements should be funded as Capital Improvement Program projects or through private development projects to further encourage the use of transit.
- CI.4.9 Provide information to the public on available alternative transportation choices and routes.
- CI.4.10 Encourage local businesses to provide employees with transit passes or other financial incentives to use transit to commute to and from the workplace.
- CI.4.11 Recommend potential stop locations for local school bus service and provide minor street and landscaping improvements as appropriate.
- CI.4.12 Commission a feasibility study of local shuttle service within Saratoga. Funding for the study should be obtained from federal and state grants/sources and private development projects.

BICYCLE, PEDESTRIAN AND EQUESTRIAN FACILITIES

Goals

- CI. 5.0a Integrate facilities for safe bicycling, walking, and horseback riding into the overall transportation system.
- CI.5.0b Encourage equestrian and pedestrian trails and pathways pursuant to the Parks and Trails Master Plan along roadways in areas where safety and aesthetics permit.

Policies

- CI.5.1 Develop and maintain a comprehensive and integrated system of bikeways that promote bicycle riding for commuting and recreation.
- CI.5.2 Integrate the City of Saratoga bikeways system with the bikeways system of adjacent communities, where economically feasible.
- CI.5.3 Pursue the development of a new multi-use path along the Union Pacific Railroad alignment through the City of Saratoga that will link the Stevens Creek Recreational Trail in Cupertino with the Los Gatos Creek Trail in Los Gatos.
- CI.5.4 Pursue potential rights-of-way such as Santa Clara Valley Water District, San Jose Water Company, and other utility easements for bicycle, pedestrian, and/or equestrian trail development.
- CI.5.5 Assure implementation of the City's trails system by requiring trail dedication, construction, and a method of trail maintenance pursuant to the Parks and Trails Master Plan as part of the subdivision or site approval process.
- CI.5.6 Provide safe and direct pedestrian routes and bikeways between and through residential areas linking transit centers and important community centers such as the Village.
- CI.5.7 Improve pedestrian and bicycle access to all public and private schools to enhance safety.
- CI.5.8 Provide trails, sidewalks or separated pathways along all arterial streets and along some collector streets in areas where needed to provide safe pedestrian access to schools.
- CI.5.9 Require adherence to the trails policies noted in the both the Parks and

Trails Master Plan and the Hillside Specific Plan.

- CI.5.10 Develop a set of practical and realistic transportation demand management (TDM) measures that can be used by employers in the City to reduce the number of single-occupant vehicle trips. These measures would encourage ride-sharing and transit alternatives.

Implementation Measures

- CI.5.11 Update and adopt the Bikeways Master Plan to include goals and objectives, a detailed list and map of improvements, a signage program, detailed standards, and an implementation program. The Bikeways Master Plan should include the proposed facilities shown on Figure C-5.
- CI.5.12 Upgrade existing bikeways and designate new facilities where they can be accommodated according to current Valley Transportation Authority (VTA) technical guidelines (prior to adoption of City standards in the Bikeways Master Plan). For example, travel lanes on Fruitvale Avenue north of Burgundy Way should be restriped to provide bicycle lanes with 5-foot minimum widths or pathways.
- CI.5.13 Coordinate with the school districts and other entities to develop "Suggested Route to School Plans" for all public and private schools in the City. Plans shall identify all pedestrian and bicycle facilities, and traffic control devices for residents to determine the most appropriate travel route. The plans shall also identify existing easements for sidewalks.
- CI.5.14 Prohibit parking in designated bicycle lanes on all streets unless adequate width is provided according to VTA guidelines or City standards.
- CI.5.15 Require the provision of secure bicycle parking as part of all future development projects that include multi-family residential, commercial, industrial, office, and institutional uses.
- CI.5.16 Develop a plan to review and identify additional bicycle parking locations in the Village area.
- CI.5.17 Require new development projects and redevelopment projects to dedicate right-of-way and/or provide improvements to accommodate bicycle lanes on streets identified on Figure C-5.
- CI.5.18 Require new cul-de-sac streets to accommodate bicycle and pedestrian access between residential areas, public uses, and community areas.
- CI.5.19 Encourage non-residential development projects to include amenities such

as showers and lockers for employees to further encourage bicycling as an alternative to automobile travel.

- CI.5.20 Increase priority of pedestrian safety projects (i.e., pedestrian street crossings, sidewalks or pathways) as part of the Capital Improvement Program.
- CI.5.21 Make bikeway improvements a funding priority by: 1) continuing to consider financing bikeway design and construction as part of the City's annual construction and improvement fund; 2) incorporating bikeway improvements as part of the Capital Improvement Program and pavement management efforts; and 3) aggressively pursuing regional funding and other Federal and State sources for new bikeways.
- CI.5.22 Update the Parks and Trails Master Plan to maintain and expand the Citywide pedestrian path system. The plan should include the proposed trails shown on Figure C-6.
- CI.5.23 Prohibit motorized vehicular traffic on trails, pathways, parks and dedicated open space areas except for maintenance and emergency purposes.
- CI.5.24 Include new sidewalk or path construction in the Capital Improvement Program, or as part of any new development, to close gaps in pedestrian facilities on the following arterial roadways: Saratoga-Sunnyvale Road, Saratoga Avenue, Prospect Road, and Cox Avenue (see Figure C-6).
- CI.5.25 Include new sidewalk or path construction in the Capital Improvement Program, or as part of any new development or redevelopment, to close gaps on local and collector streets near schools.
- CI.5.26 Review the need to install sidewalks and crosswalks on all City streets within one-half mile of all public schools.
- CI.5.27 Review the present equestrian zones and assess their consistency with the trails and pathways plan of the circulation element.

AESTHETIC QUALITIES AND HERITAGE LANES

Goals

- CI.6.0a Protect the aesthetic, historic and remaining rural qualities of Saratoga through street design and landscaping.

- CI.6.0b Strive for aesthetically pleasing views from all roads in Saratoga and the Sphere of Influence.
- CI.6.0c Encourage the preservation of the width and appearance of those roads designated as heritage resources by the City.

Policies

- CI.6.1 Identify areas of critical need for beautification and coordinate plans with revitalization or anticipated development of areas such as City gateways.
- CI.6.2 Adhere to minimum City street standards based on location, terrain, character of areas and the anticipated function of the roadway.
- CI.6.3 Permit variation of the conventional City street development standards, as described in the City's Subdivision Ordinance, in order to preserve environmentally sensitive roadside features where traffic safety will permit such variations.
- CI.6.4 Identify the function of a street in advance of construction, and apply design criteria to minimize disruption to the area caused by through or heavy vehicle traffic.
- CI.6.5 Encourage the planting of trees and plan the development of landscaped medians along major arterial roadways.
- CI.6.6 Enforce ordinances to prevent the use of non-conforming roadside signs on all roads and highways within the City, whether erected by private individuals or business enterprises.
- CI.6.7 Require increased setbacks of up to 100 feet for structures, walls or fences to be located on lots adjacent to officially designated scenic highways where it is determined by the City that such increased setbacks are necessary to preserve the scenic qualities of the highway.
- CI.6.8 Require increased setbacks and landscaping for commercial and multi-family residential structures on corner lots adjacent to arterial streets, as required, to reduce the visual impact of such structures and to enhance the appearance of important intersections where it is determined by the City that such increased setbacks are necessary to preserve the scenic qualities of the highway.
- CI.6.9 Approve designs for new hillside streets that maximize the use of natural terrain for roadbed construction and minimize "cuts and fills."

Implementation Measures

- CI.6.10 Review Subdivision Ordinance street standards for adequacy and prepare illustrations of corresponding roadway cross-sections.
- CI.6.11 Require a sight distance analysis to ensure adequate site access for variances from street design standards proposed by the City or by private developers. Use Caltrans design standards as guidelines for sight distance studies.
- CI.6.12 Encourage residents of streets and roads believed to have historic merit to nominate those rights-of-way for designation as heritage lanes through the Heritage Preservation Commission.
- CI.6.13 Design commercial areas with pedestrian amenities, shade trees, and on-street parking to create inviting environments.
- CI.6.14 The designation of Heritage Lane shall not preclude City action necessary to guarantee safe access for emergency vehicles while maintaining the integrity of the existing heritage lane.

PARKING SUPPLY AND MANAGEMENT

Goals

- CI.7.0a Provide adequate parking for non-residential uses to minimize intrusion into adjacent neighborhoods.
- CI.7.0b Provide on-street parking spaces in commercial areas that provide direct access to abutting properties while requiring off-street public and private parking lots to serve the majority of the demand.

Policies

- CI.7.1 Review on-street parking policies and utilization in the Village area.
- CI.7.2 Designate curb parking in the Village area for short-term use by those visiting businesses and public facilities.
- CI.7.3 Encourage the location of parking lots behind buildings to emphasize the buildings' physical and visual connections to the street and to maximize pedestrian access and safety.
- CI.7.4 Encourage the use of carpools and vanpools by providing preferential spaces as appropriate.

Implementation Measures

- CI.7.5 Enforce parking ordinances in terms of time limits and zones.
- CI.7.6 Establish time limits for on-street parking in commercial areas.
- CI.7.7 Adopt design standards for parking stalls, aisles and driveways for on-street and off-street facilities.

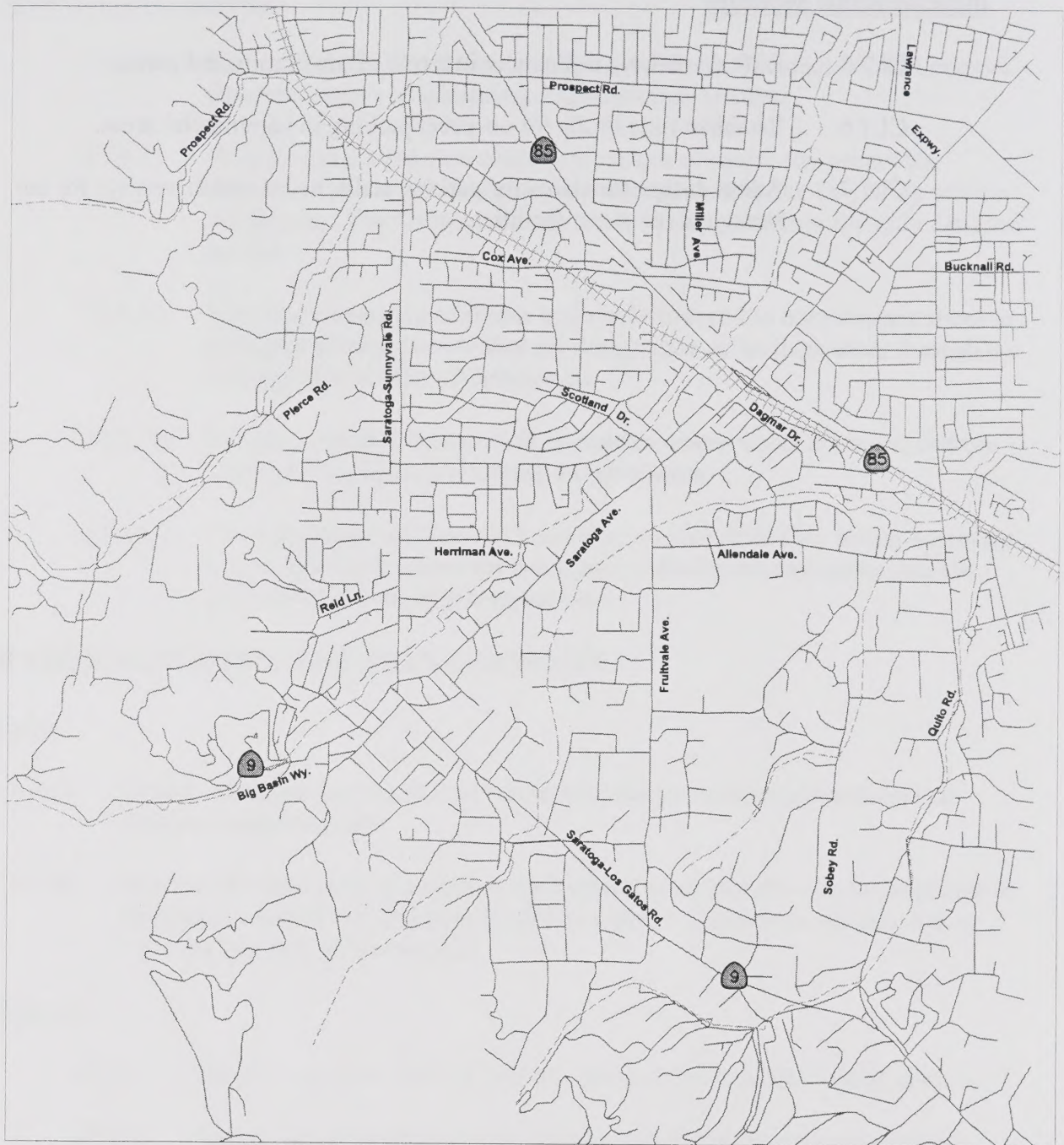


Figure 1 995-182-1	CITY MAP	
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- | | |
|---|--------------------|
| — · — Interstate Freeway (Not Applicable) | — — Minor Arterial |
| — — — Other Freeway or Expressway | — Collector |
| — · — — Other Principal Arterial | |

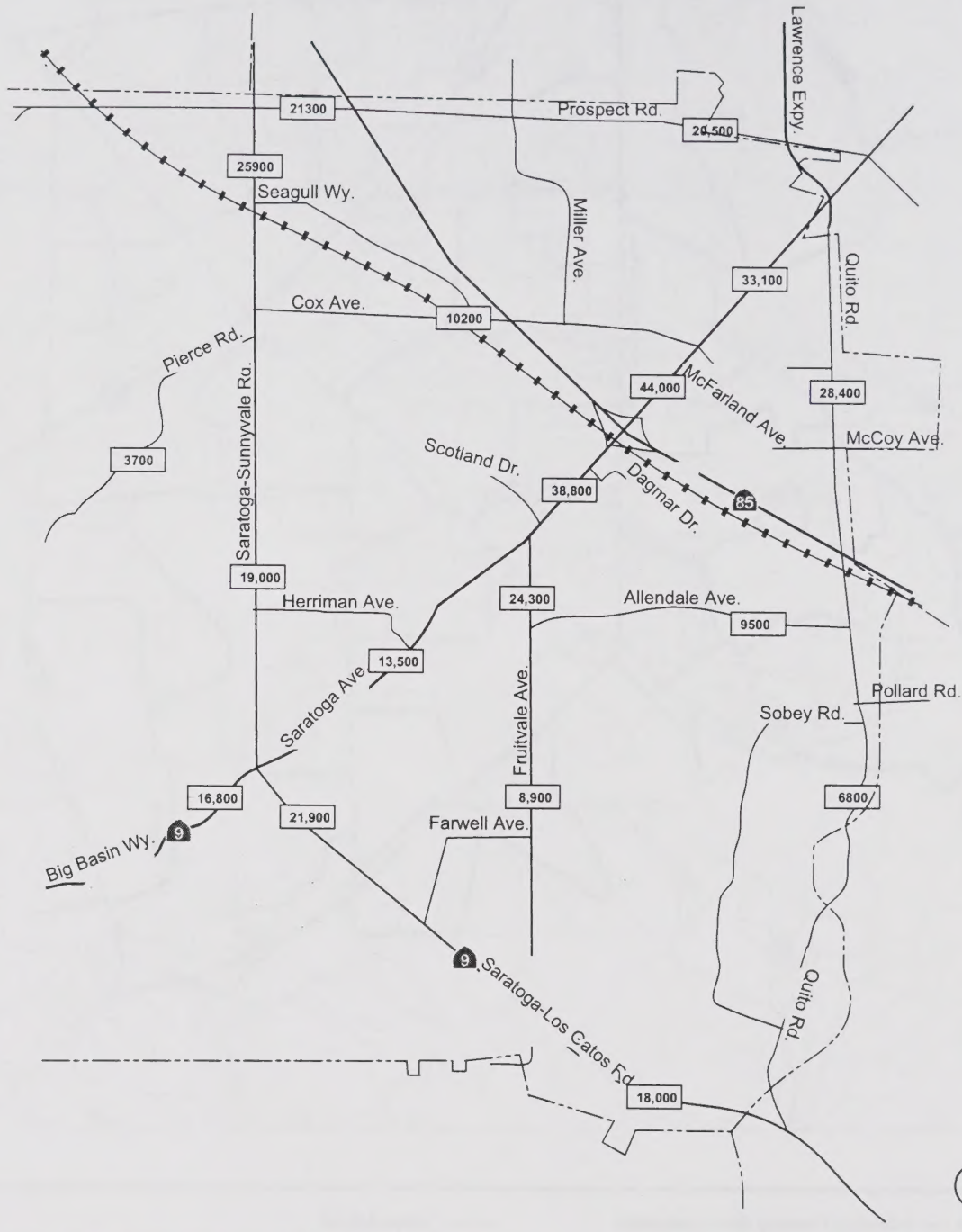


Figure 2

CURRENT FHWA ROADWAY CLASSIFICATIONS

995-182-1





Note: Traffic counts obtained in 1998 and 1999

Not to Scale

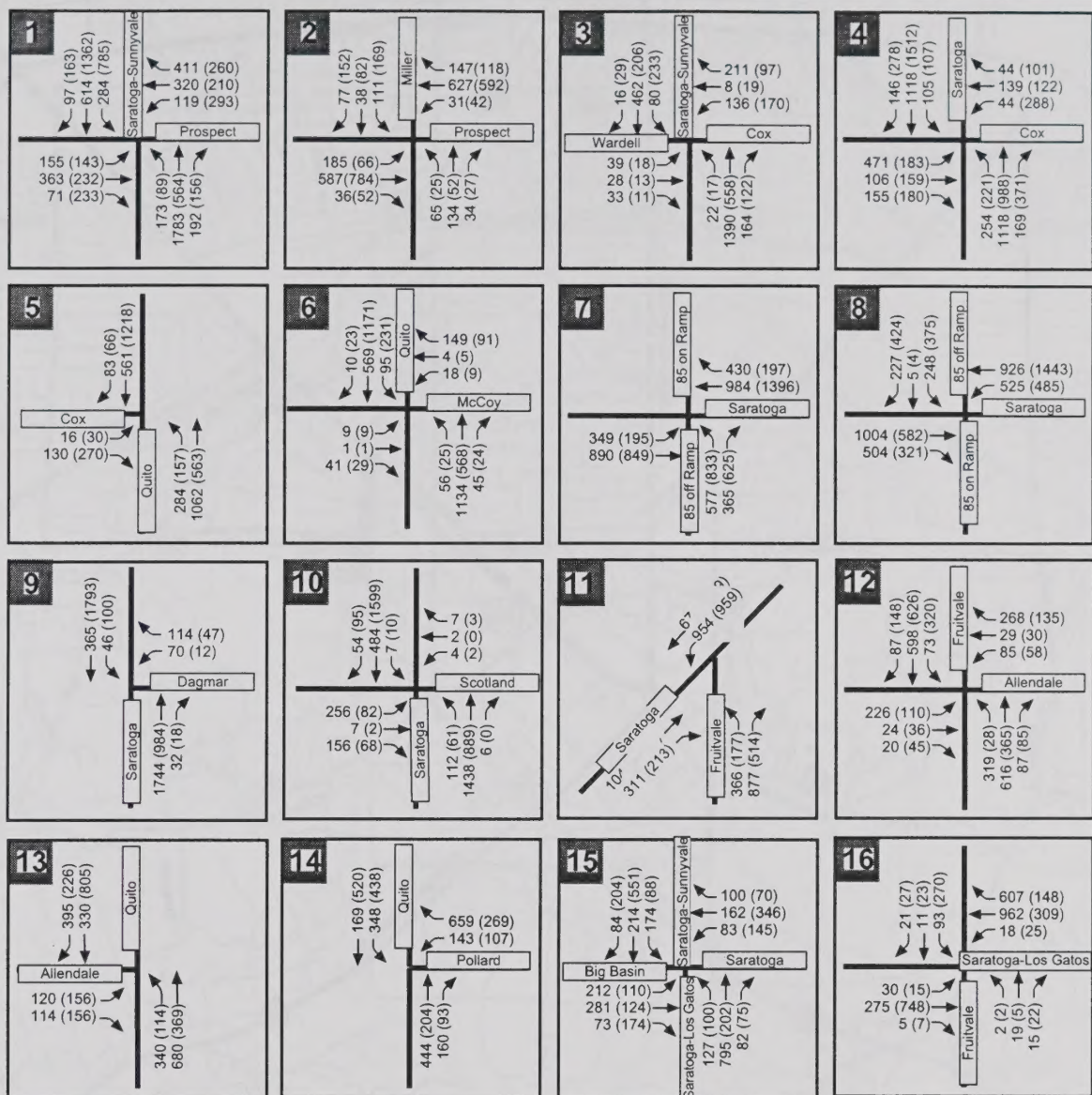
Figure 3

EXISTING DAILY VOLUMES

182-13-01



City of Saratoga Circulation and Scenic Highway Element
Background Report/Goals, Policies and Implementation Measures



Key:

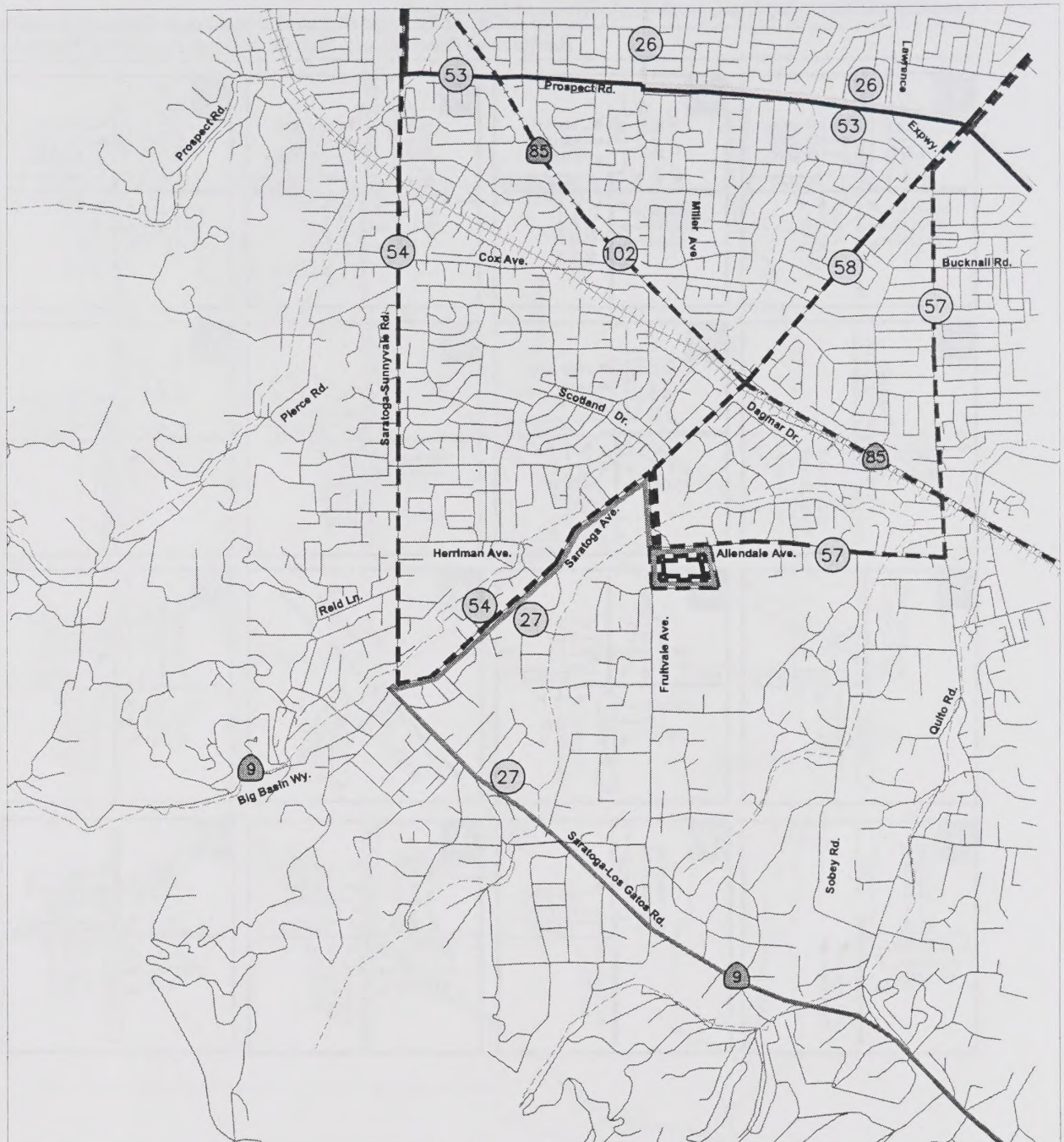
XX (XX) = AM (PM)

Note: Traffic counts obtained in 1998 and 1999

Figure 4 **EXISTING PEAK HOUR VOLUMES**

182-14-01





- | | |
|--------------|--|
| — Route 26 | --- Route 57 |
| — Route 27 | --- Route 58 |
| — Route 53 | --- Express Route 102 (No Stops in Saratoga) |
| --- Route 54 | ② Route Numbers |



Figure 5

EXISTING TRANSIT SERVICE

995-182-1



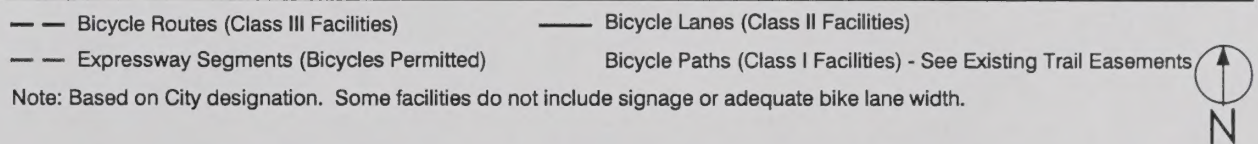


Figure 6 995-182-1	EXISTING BICYCLE FACILITIES MAP	
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City of Saratoga Circulation and Scenic Highway Element
Background Report/Goals, Policies, and Implementation Measures

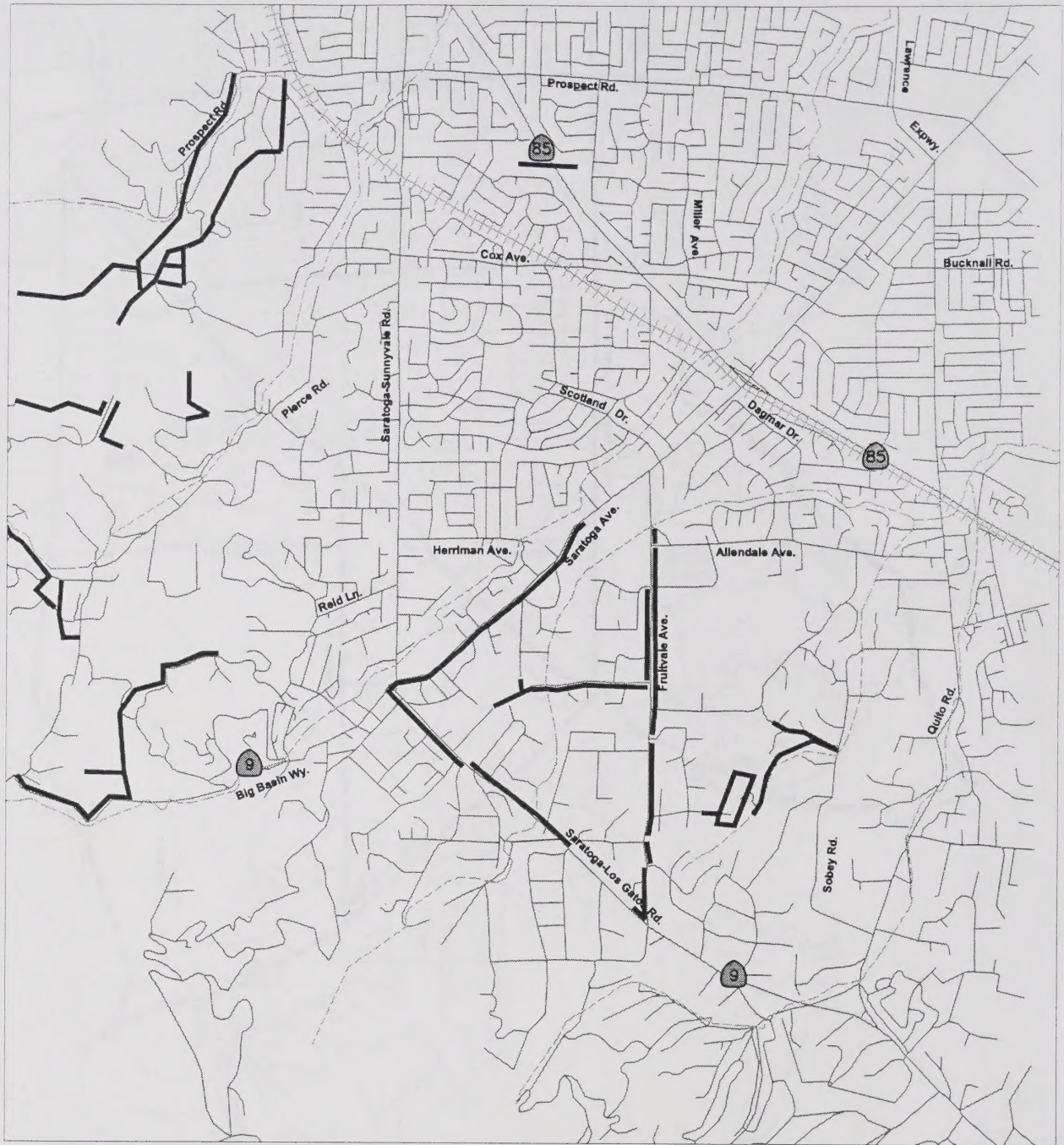


Figure 7

EXISTING TRAIL EASEMENTS

995-182-1

